

CAN COMMUNICATION SYSTEM

PRECAUTION

1. PRECAUTION

- (a) Turn the ignition switch OFF before measuring the resistance of the main wire and the branch wire.
- (b) After the ignition switch is turned off, check that the key reminder warning system and light reminder warning system are not in operation.
- (c) Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

2. STEERING SYSTEM HANDLING PRECAUTIONS

- (a) Care must be taken when replacing parts. Incorrect replacement could affect the performance of the steering system and result in hazards when driving.

3. SRS AIRBAG SYSTEM HANDLING PRECAUTIONS

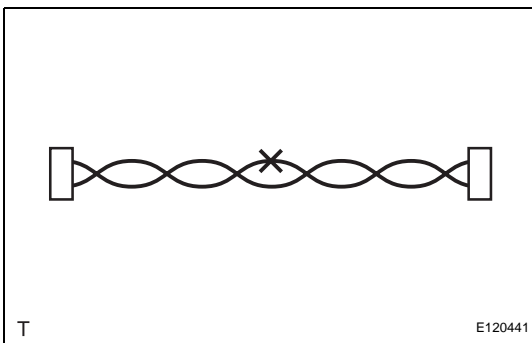
- (a) This vehicle is equipped with an SRS (Supplemental Restraint System) such as the driver airbag and front passenger airbag. Failure to carry out service operations in the correct sequence could cause unexpected SRS deployment during servicing and may lead to a serious accident. Before servicing (including installation/removal, inspection and replacement of parts), be sure to read the precautionary notice for the Supplemental Restraint System (see page [RS-1](#)).

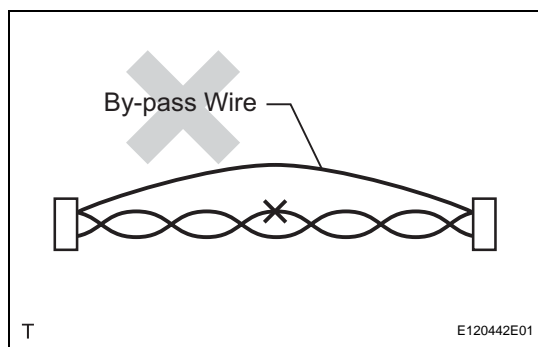
4. BUS LINE REPAIR

- (a) After repairing the bus line with solder, wrap the repaired part with vinyl tape (see page [IN-37](#)).

NOTICE:

- The CANL bus line and CANH bus line must be installed together.
- When installing, twist them together.
- CAN bus lines are likely to be influenced by noise if the bus lines are not twist together.
- The difference in length between the CANL bus line and CANH bus line should be less than 100 mm (3.937 in.).
- Leave approximately 80 mm (3.150 in.) loose in the twisted wires around the connectors.





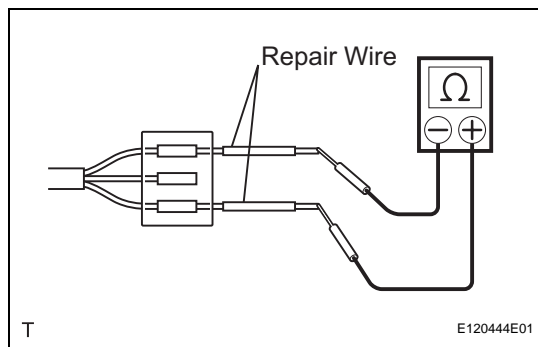
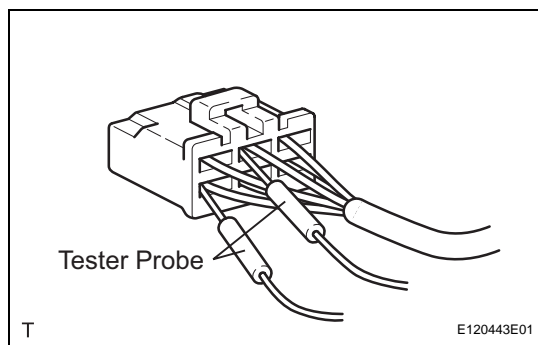
- (b) Do not use bypass wiring between the connectors.

NOTICE:

The feature of the twisted wire harness will be lost if bypass wiring is used.

5. CONNECTOR HANDLING

- (a) When inserting tester probes into a connector, insert them from the rear of the connector.



- (b) Use a repair wire to check the connector if it is impossible to check resistance from the rear of the connector.

PARTS LOCATION

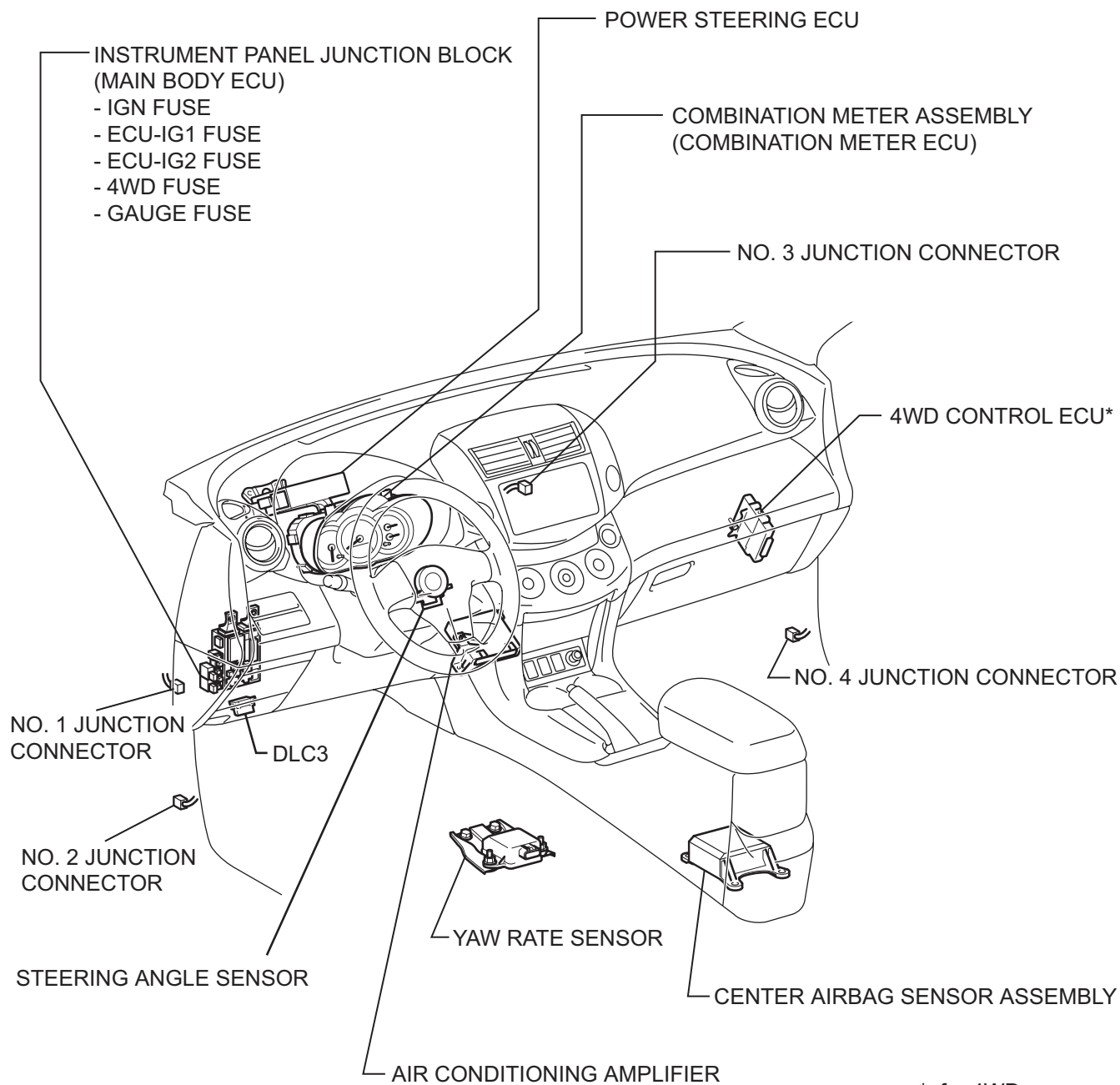
ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

ECM

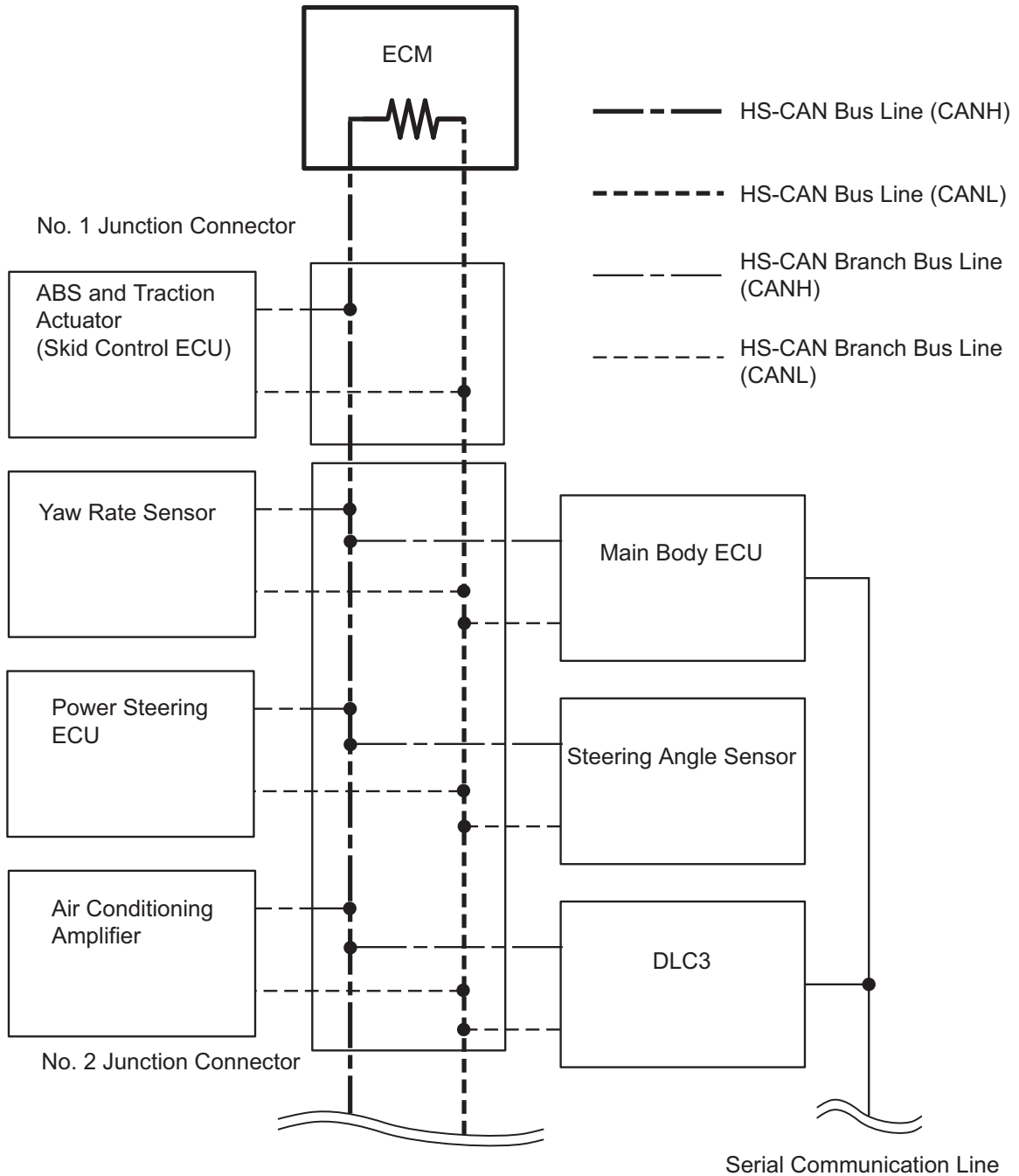
ENGINE ROOM NO. 2 RELAY BLOCK
- ECU-B FUSE
- ECU-B2 FUSE

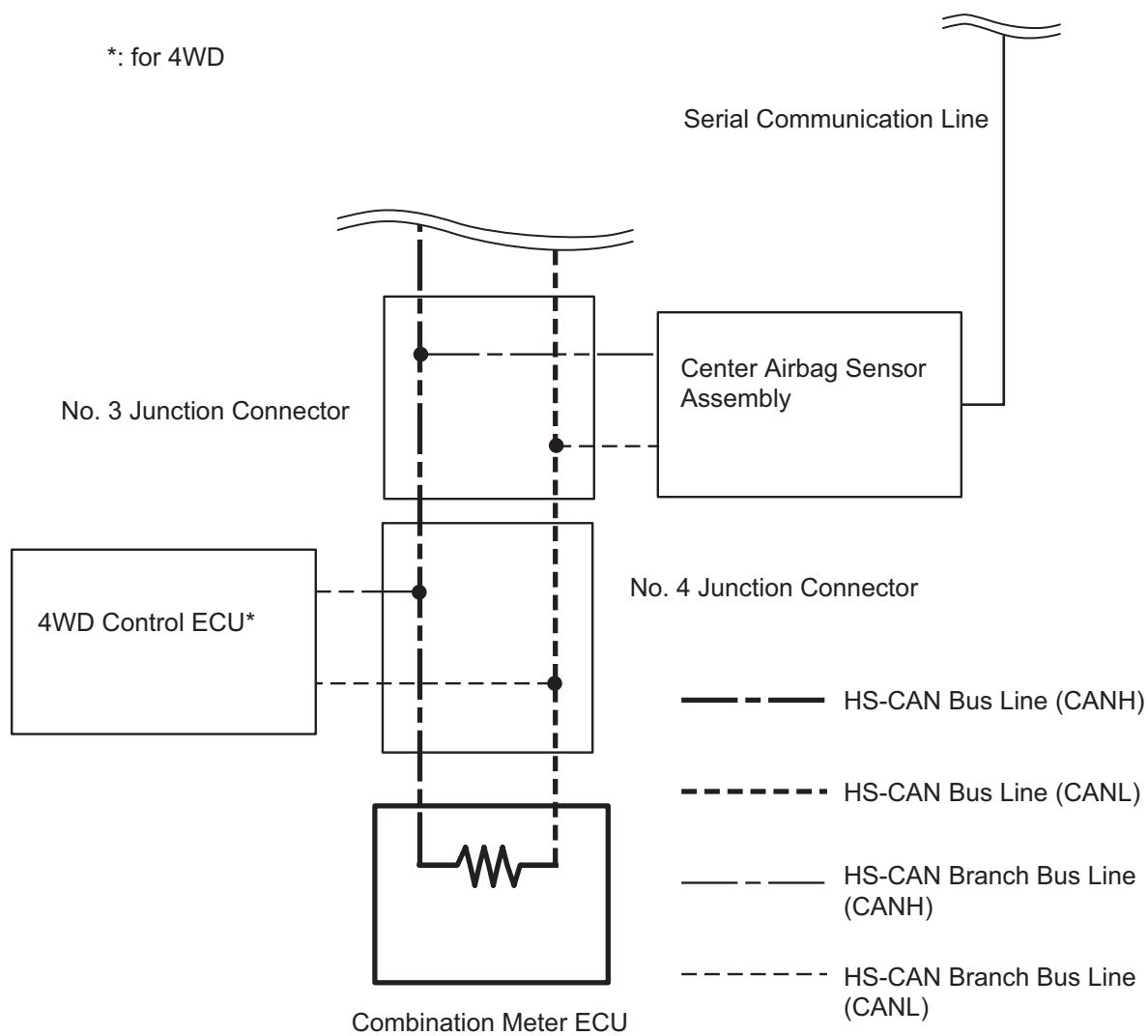
ENGINE ROOM NO. 1 RELAY BLOCK,
NO. 1 JUNCTION BLOCK
- EMPS H-FUSE
- EFI MAIN FUSE
- ETCS FUSE

CA



*: for 4WD

SYSTEM DIAGRAM**CA**



C127349E04

HINT:

- The ABS and traction actuator (skid control ECU) detects and stores steering sensor and yaw rate sensor DTCs and performs DTC communication by receiving information from the steering sensor and yaw rate sensor.
- The ECM uses the CAN communication system to perform DTC communication instead of the conventional communication line (SIL).

SYSTEM DESCRIPTION

1. BRIEF DESCRIPTION

- (a) The CAN (Controller Area Network) is a serial data communication system for real time application. It is a vehicle multiplex communication system which has a high communication speed (500 kbps) and the ability to detect malfunctions.
- (b) By pairing the CANH and CANL bus lines, the CAN performs communication based on differential voltages.
- (c) Many ECUs (sensors) installed on the vehicle operate by sharing information and communicating with each other.
- (d) The CAN has 2 resistors of 120 Ω which are necessary to communicate with the main wire.

2. DEFINITION OF TERMS

- (a) Main wire
 - (1) The main wire is a wire harness between the 2 terminus circuits on the bus (communication line). This is the main bus in the CAN communication system.
- (b) Branch wire
 - (1) The branch wire is a wire harness which diverges from the main wire to an ECU or sensor.
- (c) Terminus circuit
 - (1) The terminus circuit is a circuit which converts the communication current of the CAN communication into the bus voltage. It consists of a resistor and condenser. 2 terminus circuits are necessary on a bus.
- (d) CAN J/C
 - (1) The CAN J/C is a junction designed for CAN communication, which contains a terminus circuit.

3. ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

- (a) ABS and traction actuator (Skid control ECU)
- (b) Power steering ECU
- (c) Steering Angle sensor
- (d) Yaw rate sensor
- (e) ECM
- (f) Center airbag sensor
- (g) Air conditioning amplifier
- (h) Combination meter ECU
- (i) Main body ECU
- (j) 4WD control ECU*

HINT:

*: for 4WD

4. DIAGNOSTIC CODES FOR CAN COMMUNICATION SYSTEM

- (a) DTCs for the CAN communication system are as follows: U0073, U0100, U0105, U0121, U0122, U0123, U0124, U0126, U0129, C1280, C1296, C1297, and B1499.

5. NOTES REGARDING TROUBLESHOOTING

- (a) Trouble in the CAN bus (communication line) can be checked through the DLC3 (except when there is a wire break other than in the branch wire of the DLC3).

NOTICE:

Do not connect the tester directly to the DLC3 connector. Be sure to use a service wire.

- (b) DTCs regarding the CAN communication system can be checked using the intelligent tester.
- (c) The CAN communication system cannot detect trouble in the branch line of the DLC3 even though the DLC3 is also connected to the CAN communication system.

HOW TO PROCEED WITH TROUBLESHOOTING

NOTICE:

- DTCs for the CAN communication system are as follows: U0073, U0100, U0105, U0121, U0122, U0123, U0124, U0126, U0129, C1280, C1296, C1297, and B1499.
- Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.
- Turn the ignition switch off before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned off, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

- *: Use the intelligent tester (with CAN VIM).
- Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

CA

1 VEHICLE BROUGHT TO WORKSHOP

NEXT

2 INSPECT BATTERY VOLTAGE

Standard voltage::**11 to 14 V**

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

3 CHECK CAN BUS LINE

(a) Check the CAN bus line (see page [CA-75](#)).

NEXT

4 CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

NEXT

5

CHECK AND CLEAR DTC*

NEXT

6

CHECK INTELLIGENT TESTER VIA CAN VIM*

- (a) Select "COMMUNICATION BUS CHECK" (see page [CA-34](#)).

Result

Result	Proceed to
All ECUs and sensors connected to CAN communication system displayed on screen.	A
One ECU or sensor connected to CAN communication system not displayed on screen.	B
2 or more ECU and sensors connected to CAN communication system not displayed on screen.	C

- NOTICE:**
- The systems (ECUs and sensors) that use CAN communication vary depending on the vehicle and option settings. Check which systems (ECUs and sensors) are installed on the vehicle (see page [CA-34](#)).
 - Non-installed ECUs or sensors are not displayed. Do not mistake them for being in communication stop mode.
 - If 2 or more ECUs or sensors are not displayed on the intelligent tester, perform troubleshooting for open circuits in one side of the CAN branch line for each undisplayed ECU or sensor.

B

GO TO COMMUNICATION STOP MODE TABLE

C

GO TO OPEN IN ONE SIDE OF CAN BRANCH WIRE

A

7

DTC COMBINATION TABLE

- (a) Confirm the trouble according to the combination of output DTCs regarding the CAN communication system.
- HINT:
Previous CAN communication system DTCs may be the cause if CAN communication system DTCs are output and all ECUs and sensors connected to the CAN communication system are displayed on the intelligent tester "Communication BUS CHECK" screen.
- (b) Check the DTC combination table (see page [CA-34](#)).

NEXT

8	CIRCUIT INSPECTION
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NEXT

9	IDENTIFY PROBLEM
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NEXT

10	REPAIR OR REPLACE
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NEXT

11	CONFIRMATION TEST
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NEXT

END

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PROBLEM SYMPTOMS TABLE

(2005/11-2006/01)

Result list of check can bus line

Symptom	Suspected Area	See page
Open in CAN Main Wire	CAN MAIN WIRE FOR DISCONNECTION	CA-80
Short in CAN Bus Line	CAN BUS LINES FOR SHORT CIRCUIT	CA-91
Short to +B in CAN Bus line	CAN BUS LINE FOR SHORT TO +B	CA-109
Short to GND in CAN Bus Line	CAN BUS LINE FOR SHORT TO GND	CA-126
Open in One Side of CAN Branch Wire	OPEN IN ONE SIDE OF CAN BRANCH WIRE	CA-160

Communication stop mode table

Symptom	Suspected Area	See page
ABS / VSC / TRAC not displayed on intelligent tester	ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) WITH ACTUATOR COMMUNICATION STOP MODE	CA-42
EPS not displayed on intelligent tester	POWER STEERING ECU COMMUNICATION STOP MODE	CA-49
STEERING SENSOR not displayed on intelligent tester	STEERING ANGLE SENSOR COMMUNICATION STOP MODE	CA-52
YAW / DECELERAT not displayed on intelligent tester	YAW RATE SENSOR COMMUNICATION STOP MODE	CA-55
ENGINE not displayed on intelligent tester via CAN VIM	ECM COMMUNICATION STOP MODE	CA-58
SRS AIRBAG not displayed on intelligent tester	AIRBAG ECU COMMUNICATION STOP MODE	CA-69
A/C not displayed on intelligent tester	AIR CONDITION AMPLIFIER ECU COMMUNICATION STOP MODE	CA-45
METER not displayed on intelligent tester	COMBINATION METER ECU COMMUNICATION STOP MODE	CA-67
MAIN BODY not displayed on intelligent tester	MAIN BODY ECU COMMUNICATION STOP MODE	CA-64
4WD not displayed on intelligent tester*	4WD CONTROL ECU COMMUNICATION STOP MODE	CA-72

PROBLEM SYMPTOMS TABLE

(2006/01-)

Result list of check can bus line

Symptom	Suspected Area	See page
Open in CAN Main Wire	CAN MAIN WIRE FOR DISCONNECTION	CA-80
Short in CAN Bus Line	CAN BUS LINES FOR SHORT CIRCUIT	CA-91
Short to +B in CAN Bus line	CAN BUS LINE FOR SHORT TO +B	CA-109
Short to GND in CAN Bus Line	CAN BUS LINE FOR SHORT TO GND	CA-143
Open in One Side of CAN Branch Wire	OPEN IN ONE SIDE OF CAN BRANCH WIRE	CA-160

Communication stop mode table

Symptom	Suspected Area	See page
ABS / VSC / TRAC not displayed on intelligent tester	ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) WITH ACTUATOR COMMUNICATION STOP MODE	CA-42
EPS not displayed on intelligent tester	POWER STEERING ECU COMMUNICATION STOP MODE	CA-49
STEERING SENSOR not displayed on intelligent tester	STEERING ANGLE SENSOR COMMUNICATION STOP MODE	CA-52
YAW / DECELERAT not displayed on intelligent tester	YAW RATE SENSOR COMMUNICATION STOP MODE	CA-55
ENGINE not displayed on intelligent tester via CAN VIM	ECM COMMUNICATION STOP MODE	CA-60
SRS AIRBAG not displayed on intelligent tester	AIRBAG ECU COMMUNICATION STOP MODE	CA-69
A/C not displayed on intelligent tester	AIR CONDITION AMPLIFIER ECU COMMUNICATION STOP MODE	CA-45
METER not displayed on intelligent tester	COMBINATION METER ECU COMMUNICATION STOP MODE	CA-67
MAIN BODY not displayed on intelligent tester	MAIN BODY ECU COMMUNICATION STOP MODE	CA-64
4WD not displayed on intelligent tester*	4WD CONTROL ECU COMMUNICATION STOP MODE	CA-72

HINT:

*: for 4WD

CA

TERMINALS OF ECU

(2005/11-2006/01)

NOTICE:

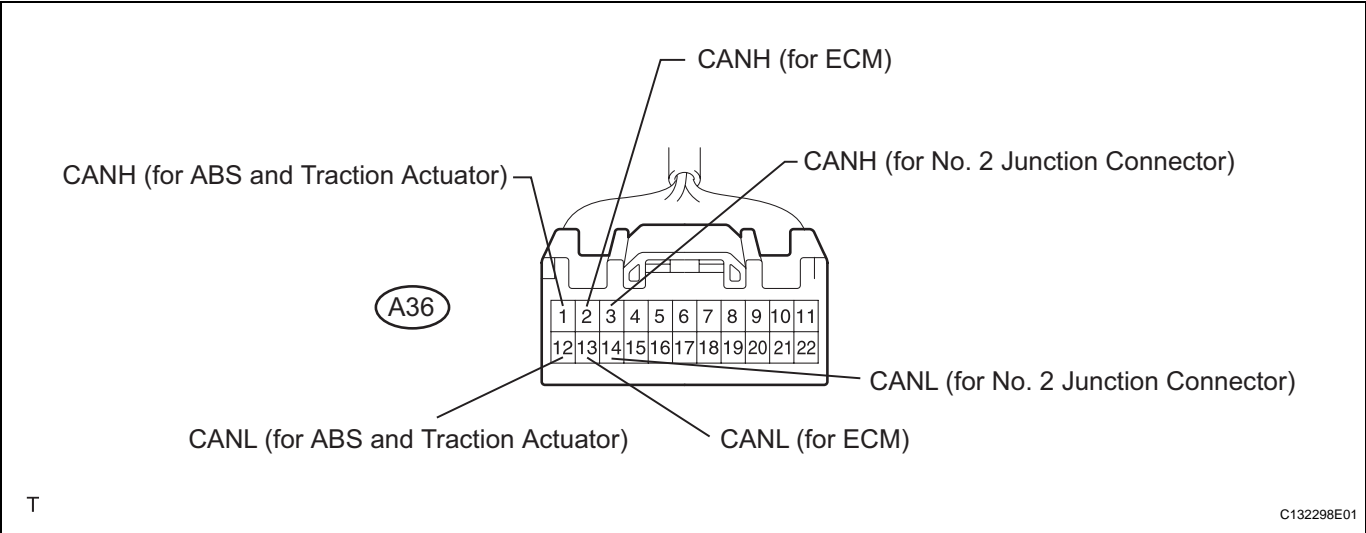
- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

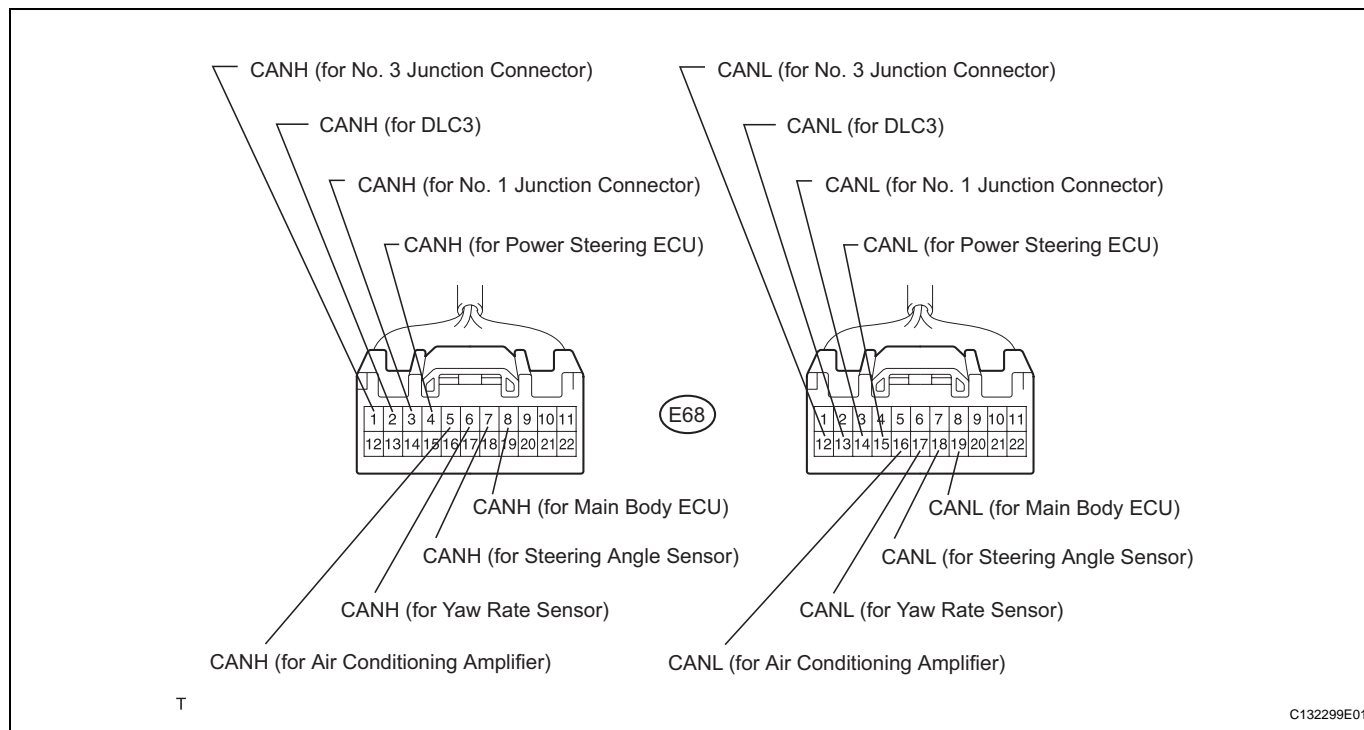
1. JUNCTION CONNECTOR

(a) No. 1 junction connector



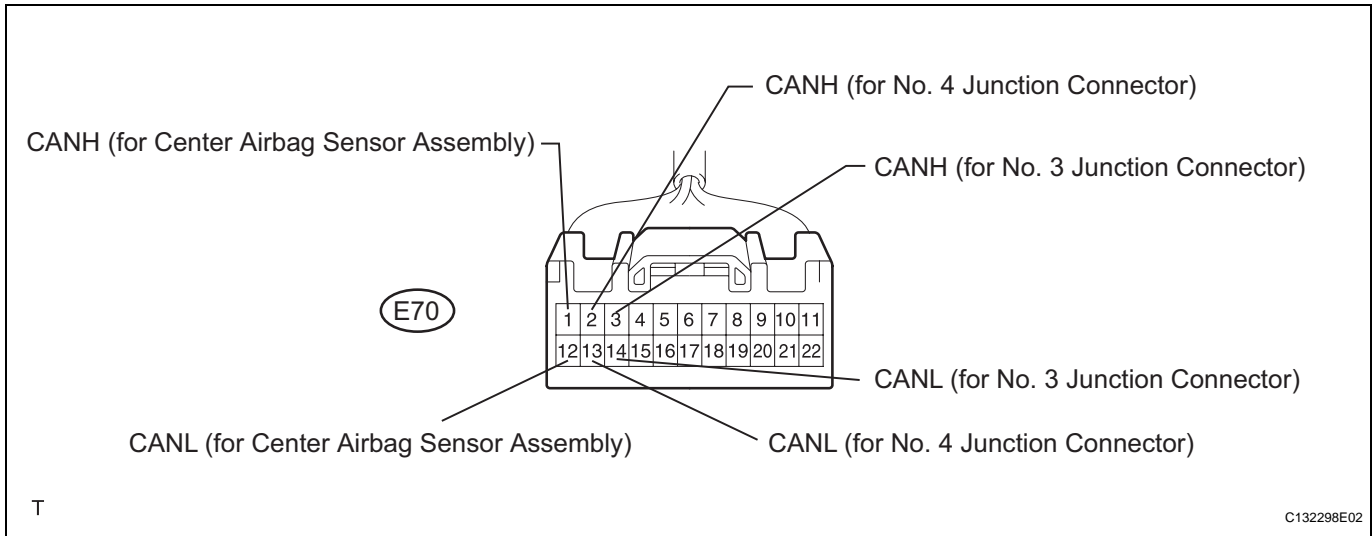
No. 1 Junction Connector	Wiring Color	Connect to
CANH (A36-1)	R	ABS and traction actuator (skid control ECU)
CANL (A36-12)	W	ABS and traction actuator (skid control ECU)
CANH (A36-2)	Y	ECM
CANL (A36-13)	W	ECM
CANH (A36-3)	L	No. 2 junction connector
CANL (A36-14)	W	No. 2 junction connector

(b) No. 2 junction connector



No. 2 Junction Connector	Wiring Color	Connect to
CANH (E68-3)	L	No. 1 junction connector
CANL (E68-14)	W	No. 1 junction connector
CANH (E68-6)	L	Yaw rate sensor
CANL (E68-17)	W	Yaw rate sensor
CANH (E68-4)	Y	Power steering ECU
CANL (E68-15)	W	Power steering ECU
CANH (E68-8)	R	Main body ECU
CANL (E68-19)	W	Main body ECU
CANH (E68-7)	BR	Steering angle sensor
CANL (E68-18)	W	Steering angle sensor
CANH (E68-2)	B	DLC3
CANL (E68-13)	W	DLC3
CANH (E68-5)	V	Air conditioning amplifier
CANL (E68-16)	W	Air conditioning amplifier
CANH (E68-1)	O	No. 3 junction connector
CANL (E68-12)	W	No. 3 junction connector

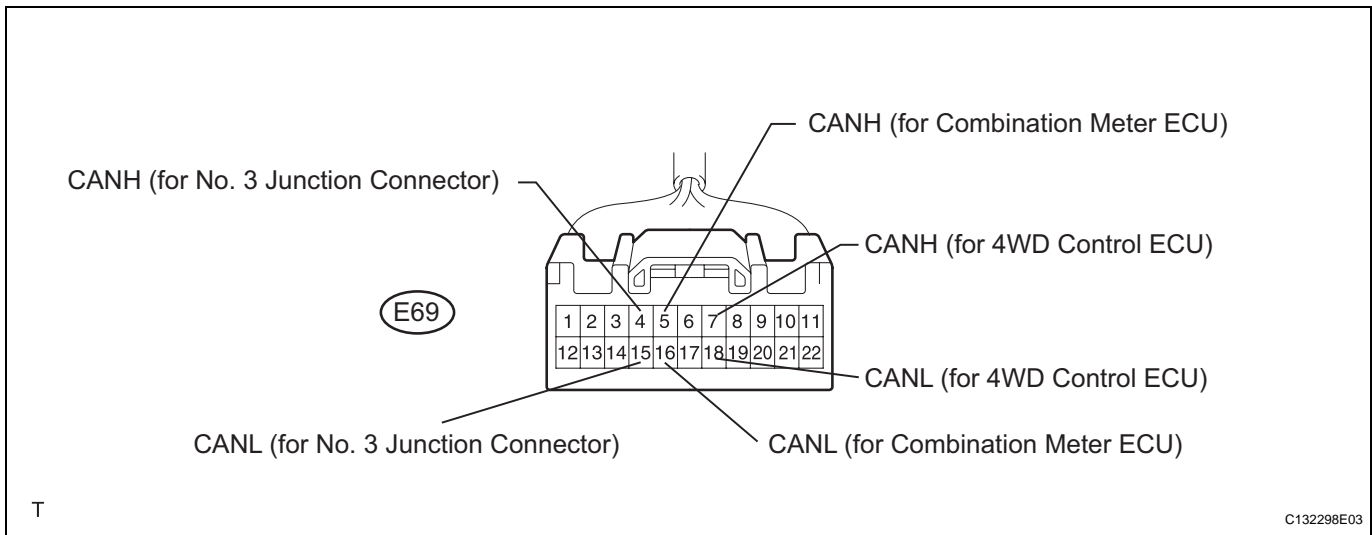
(c) No. 3 junction connector



CA

No. 3 Junction Connector	Wiring Color	Connect to
CANH (E70-3)	O	No. 2 Junction Connector
CANL (E70-14)	W	No. 2 Junction Connector
CANH (E70-1)	B	Center airbag sensor assembly
CANL (E70-12)	W	Center airbag sensor assembly
CANH (E70-2)	V	No. 4 Junction Connector
CANL (E70-13)	W	No. 4 Junction Connector

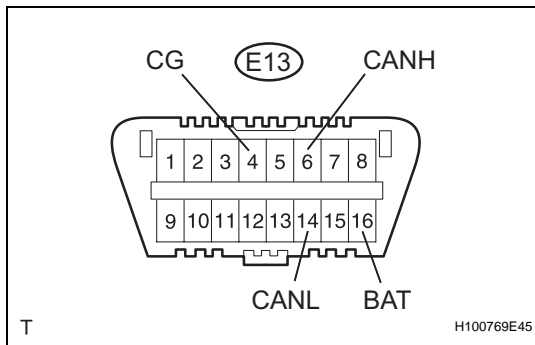
(d) No. 4 junction connector



No. 4 Junction Connector	Wiring Color	Connect to
CANH (E69-4)	V	No. 3 Junction Connector
CANL (E69-15)	W	No. 3 Junction Connector
CANH (E69-7)	P	4WD control ECU*
CANL (E69-18)	W	4WD control ECU*
CANH (E69-5)	G	Combination meter ECU
CANL (E69-16)	W	Combination meter ECU

HINT:

*: for 4WD



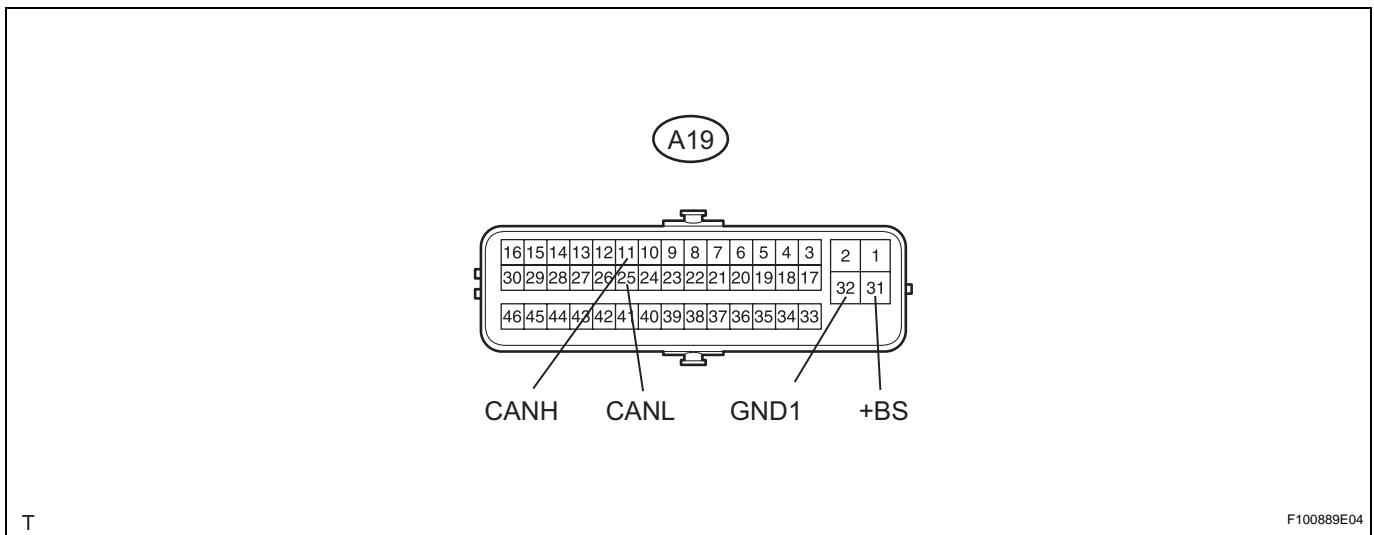
2. CHECK DLC3

- (a) Measure the resistance of the connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E13-6) - CANL (E13-14)	B - W	Ignition switch OFF	54 to 69 Ω
CANH (E13-6) - CG (E13-4)	B - BR	Ignition switch OFF	200 Ω or more
CANL (E13-14) - CG (E13-4)	W - BR	Ignition switch OFF	200 Ω or more
CANH (E13-6) - BAT (E13-16)	B - L	Ignition switch OFF	1 M Ω or more
CANL (E13-14) - BAT (E13-16)	W - L	Ignition switch OFF	1 M Ω or more

3. CHECK ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

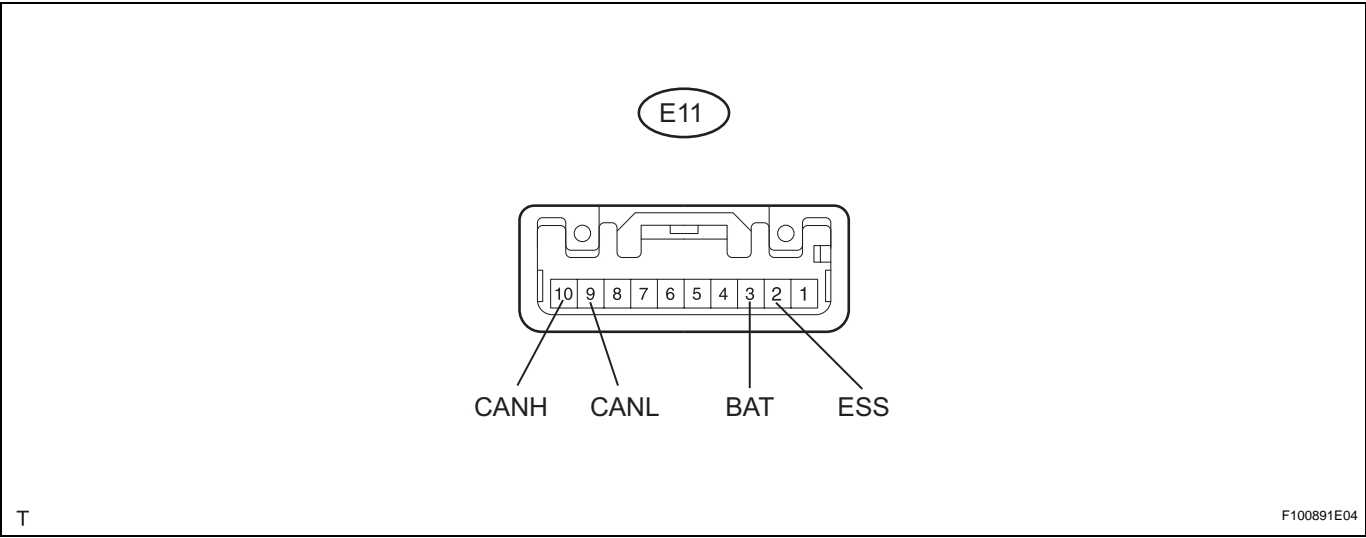
CA



- (a) Disconnect the A19 ECU connector.
 (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (A19-11) - CANL (A19-25)	R - W	Ignition switch OFF	54 to 69 Ω
CANH (A19-11) - GND1 (A19-32)	R - W-B	Ignition switch OFF	200 Ω or more
CANL (A19-25) - GND1 (A19-32)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (A19-11) - +BS (A19-31)	R - W	Ignition switch OFF	1 M Ω or more
CANL (A19-25) - +BS (A19-31)	W - W	Ignition switch OFF	1 M Ω or more

4. CHECK STEERING ANGLE SENSOR

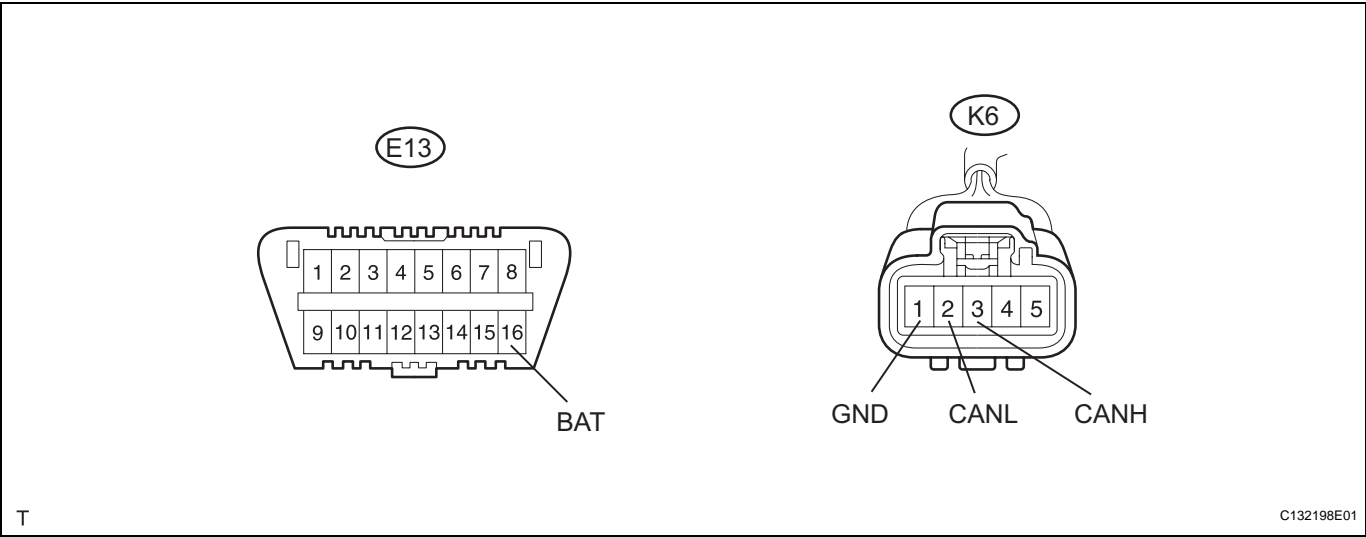


CA

- (a) Disconnect the E11 sensor connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E11-10) - CANL (E11-9)	BR - W	Ignition switch OFF	54 to 69 Ω
CANH (E11-10) - ESS (E11-2)	BR - W-B	Ignition switch OFF	200 Ω or more
CANL (E11-9) - ESS (E11-2)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E11-10) - BAT (E11-3)	BR - R	Ignition switch OFF	1 MΩ or more
CANL (E11-9) - BAT (E11-3)	W - R	Ignition switch OFF	1 MΩ or more

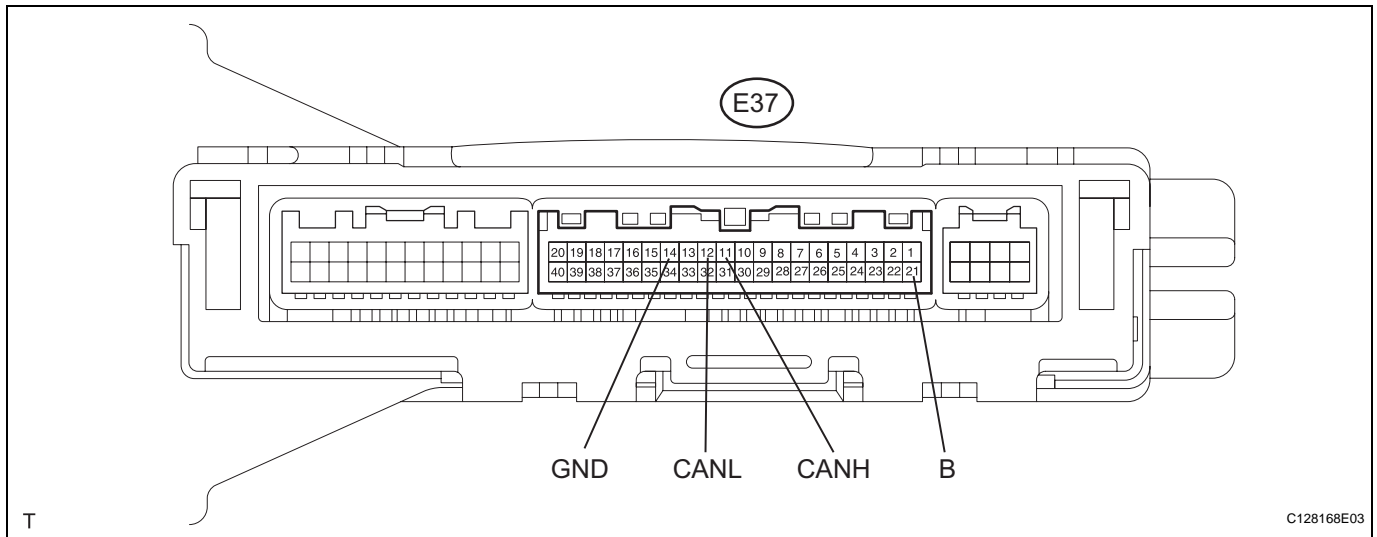
5. CHECK YAW RATE SENSOR



- (a) Disconnect the K6 sensor connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (K6-3) - CANL (K6-2)	L - W	Ignition switch OFF	54 to 69 Ω
CANH (K6-3) - GND (K6-1)	L - W-B	Ignition switch OFF	200 Ω or more
CANL (K6-2) - GND (K6-1)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (K6-3) - BAT (E13-16)	L - L	Ignition switch OFF	1 MΩ or more
CANL (K6-2) - BAT (E13-16)	W - L	Ignition switch OFF	1 MΩ or more

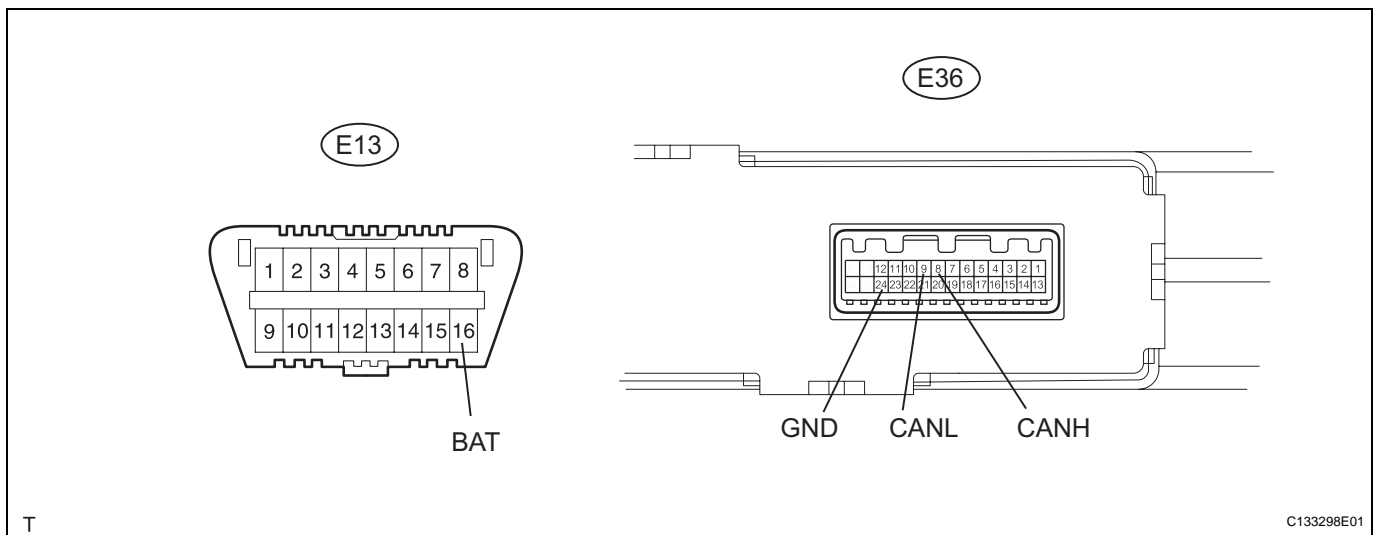
6. CHECK AIR CONDITIONING AMPLIFIER (for AUTOMATIC AIR CONDITIONING SYSTEM)



- Disconnect the E37 amplifier connector.
- Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E37-11) - CANL (E37-12)	V - W	Ignition switch OFF	54 to 69 Ω
CANH (E37-11) - GND (E37-14)	V - W-B	Ignition switch OFF	200 Ω or more
CANL (E37-12) - GND (E37-14)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E37-11) - B (E37-21)	V - R	Ignition switch OFF	1 M Ω or more
CANL (E37-12) - B (E37-21)	W - R	Ignition switch OFF	1 M Ω or more

7. CHECK AIR CONDITIONING AMPLIFIER (for MANUAL AIR CONDITIONING SYSTEM)

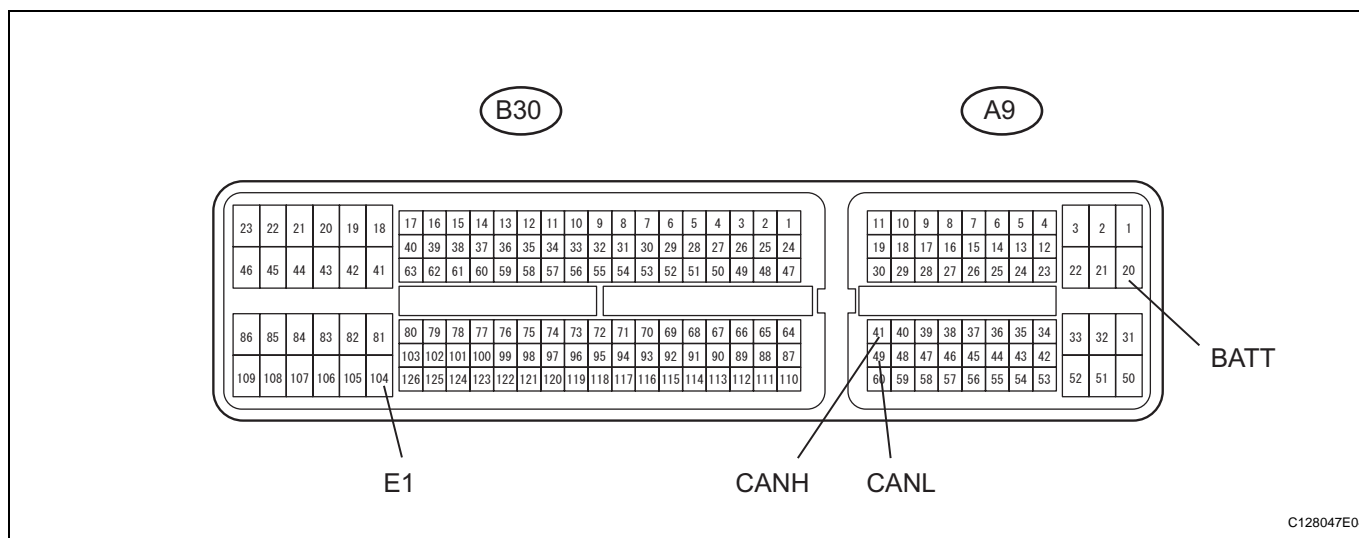


- Disconnect the E36 amplifier connector.
- Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E36-8) - CANL (E36-9)	V - W	Ignition switch OFF	54 to 69 Ω
CANH (E36-8) - GND (E36-24)	V - W-B	Ignition switch OFF	200 Ω or more
CANL (E36-9) - GND (E36-24)	W - W-B	Ignition switch OFF	200 Ω or more

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E36-8) - BAT (E13-16)	V - L	Ignition switch OFF	1 M Ω or more
CANH (E36-9) - BAT (E13-16)	W - L	Ignition switch OFF	1 M Ω or more

8. CHECK ECM

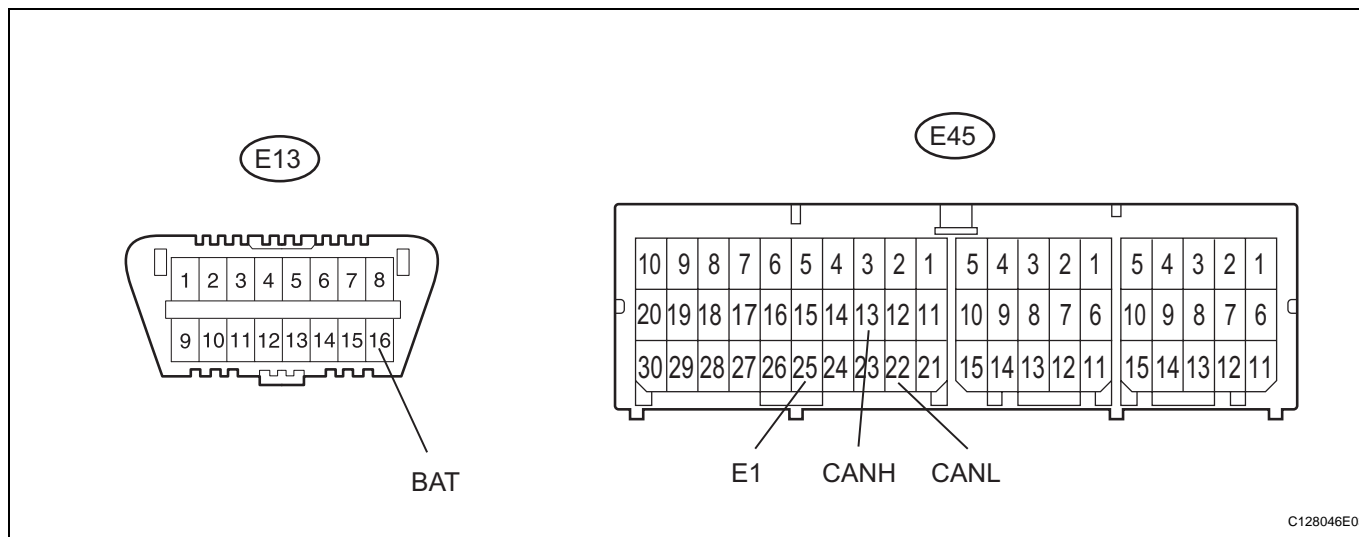


C128047E04

- Disconnect the A19 and B30 ECM connectors.
- Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (A9-41) - CANL (A9-49)	Y - W	Ignition switch OFF	108 to 132 Ω
CANH (A9-41) - E1 (B30-104)	Y - BR	Ignition switch OFF	200 Ω or more
CANL (A9-49) - E1 (B30-104)	W - BR	Ignition switch OFF	200 Ω or more
CANH (A9-41) - BATT (A9-20)	Y - W	Ignition switch OFF	1 M Ω or more
CANL (A9-49) - BATT (A9-20)	W - W	Ignition switch OFF	1 M Ω or more

9. CHECK CENTER AIRBAG SENSOR ASSEMBLY



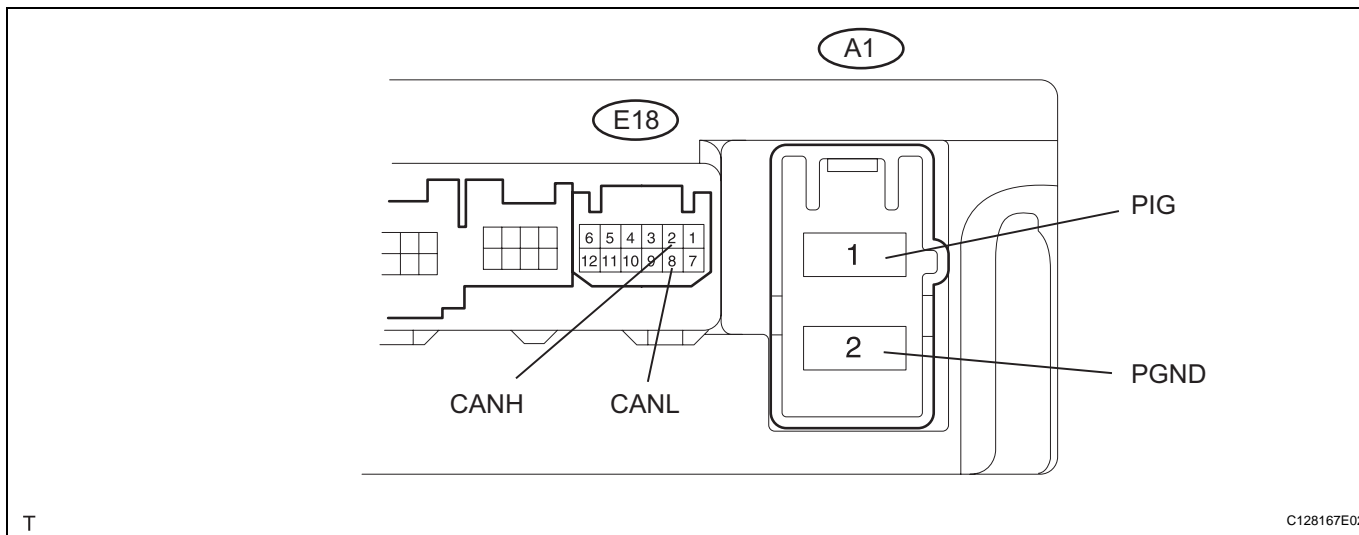
C128046E03

- Disconnect the E45 sensor connector.
- Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E45-13) - CANL (E45-22)	B - W	Ignition switch OFF	54 to 69 Ω

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E45-13) - E1 (E45-25)	B - W-B	Ignition switch OFF	200 Ω or more
CANL (E45-22) - E1 (E45-25)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E45-13) - BAT (E13-16)	B - L	Ignition switch OFF	1 M Ω or more
CANL (E45-22) - BAT (E13-16)	W - L	Ignition switch OFF	1 M Ω or more

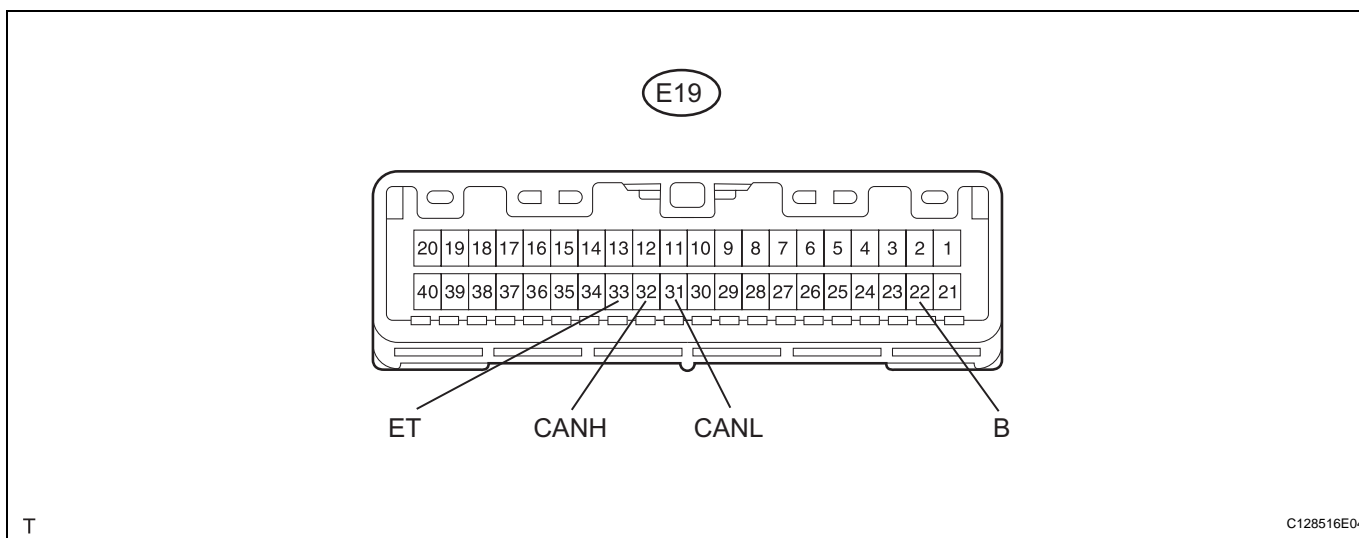
10. CHECK POWER STEERING ECU



- Disconnect the A1 and E18 ECU connectors.
- Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E18-2) - CANL (E18-8)	Y - W	Ignition switch OFF	54 to 69 Ω
CANH (E18-2) - PGND (A1-2)	Y - W-B	Ignition switch OFF	200 Ω or more
CANL (E18-8) - PGND (A1-2)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E18-2) - PIG (A1-1)	Y - W-B	Ignition switch OFF	1 M Ω or more
CANL (E18-8) - PIG (A1-1)	W - W-B	Ignition switch OFF	1 M Ω or more

11. CHECK COMBINATION METER ECU

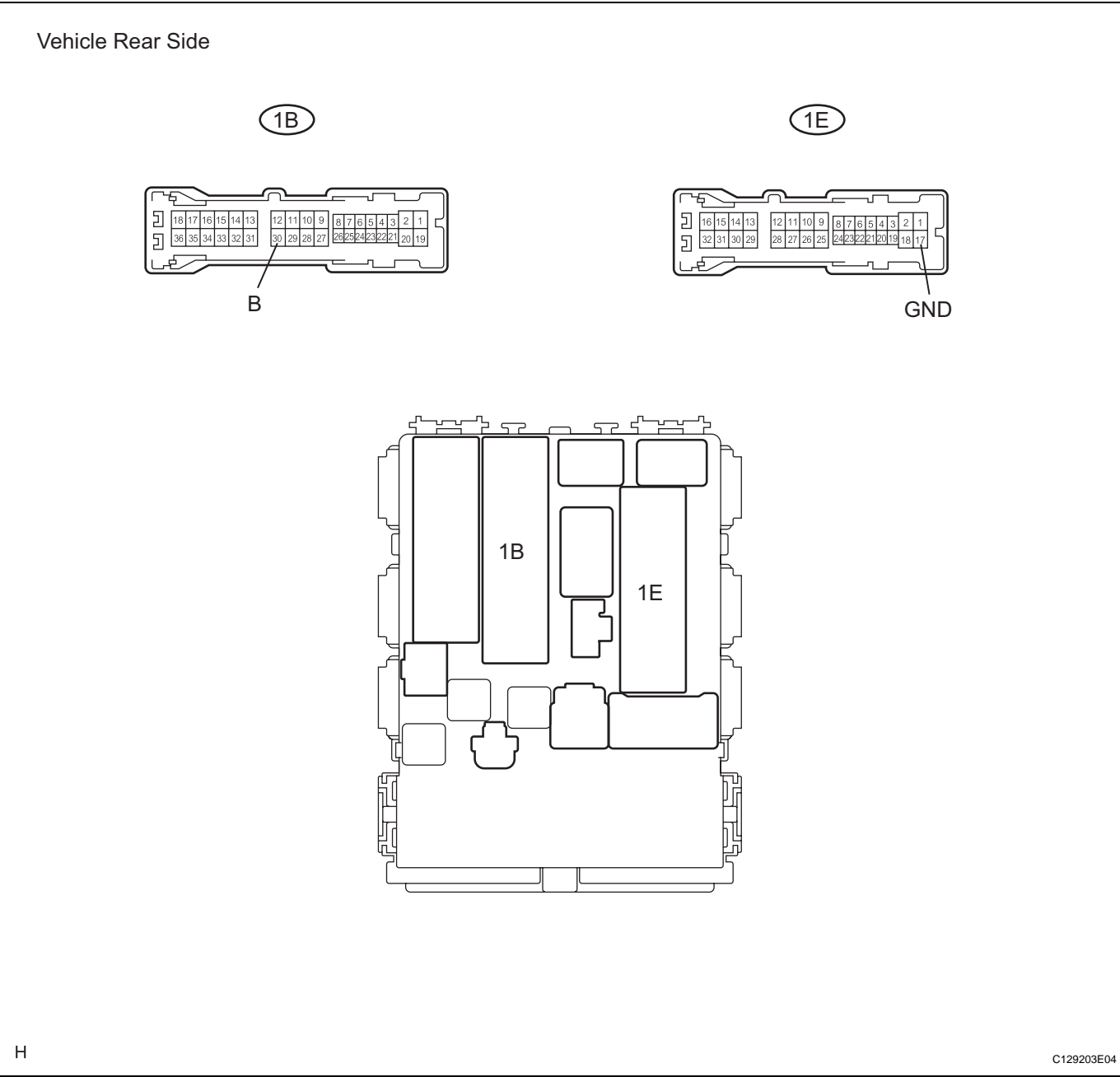


- Disconnect the E19 ECU connector.

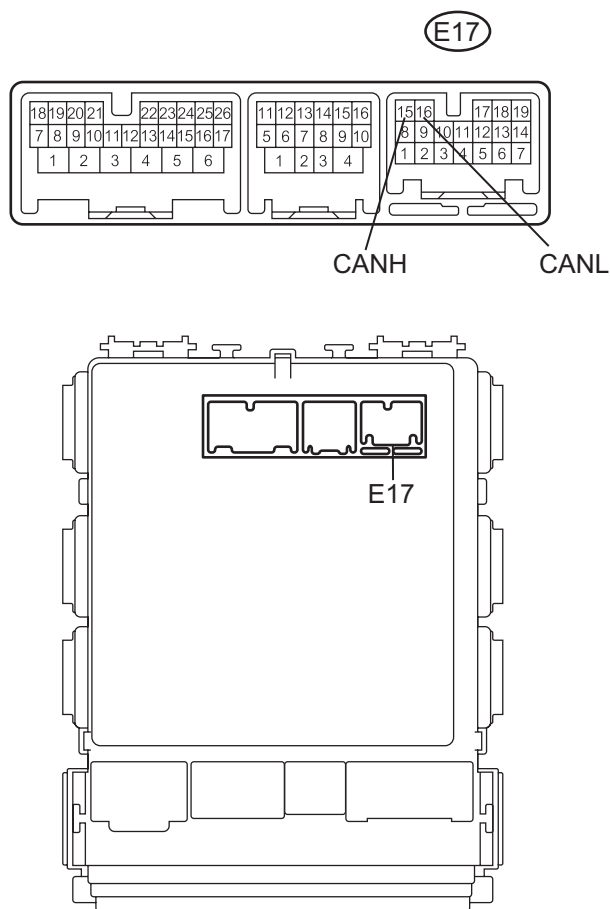
(b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E19-32) - CANL (E19-31)	G - W	Ignition switch OFF	108 to 132 Ω
CANH (E19-32) - CANL (E19-31)	G - BR	Ignition switch OFF	200 Ω or more
CANL (E19-31) - ET (E19-33)	W - BR	Ignition switch OFF	200 Ω or more
CANH (E19-32) - B (E19-22)	G - R	Ignition switch OFF	1 MΩ or more
CANL (E19-31) - B (E19-22)	W - R	Ignition switch OFF	1 MΩ or more

12. CHECK INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)



Vehicle Front Side



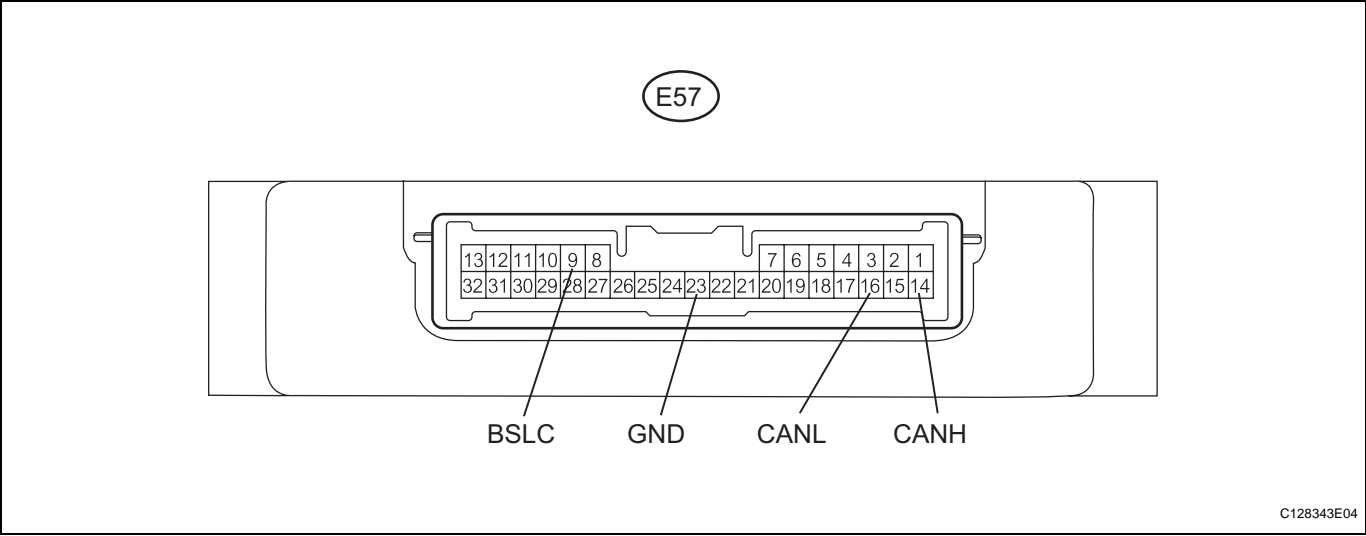
C129202E06

- Disconnect the 1B and 1E junction block connectors.
- Disconnect the E17 ECU connector.
- Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E17-15) - CANL (E17-16)	R - W	Ignition switch OFF	54 to 69 Ω
CANH (E17-15) - GND1 (1E-17)	R - W-B	Ignition switch OFF	200 Ω or more
CANL (E17-16) - GND1 (1E-17)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E17-15) - BECU (1B-30)	R - R	Ignition switch OFF	1 M Ω or more
CANL (E17-16) - BECU (1B-30)	W - R	Ignition switch OFF	1 M Ω or more

CA

13. CHECK 4WD CONTROL ECU (for 4WD)



CA

- (a) Disconnect the E57 ECU connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E57-14) - CANL (E57-16)	P - W	Ignition switch OFF	54 to 69 Ω
CANH (E57-14) - GND (E57-23)	P - W-B	Ignition switch OFF	200 Ω or more
CANL (E57-16) - GND (E57-23)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E57-14) - BSLC (E57-9)	P - R	Ignition switch OFF	1 MΩ or more
CANL (E57-16) - BSLC (E57-9)	W -R	Ignition switch OFF	1 MΩ or more

TERMINALS OF ECU

(2006/01-)

NOTICE:

- Turn the ignition switch **OFF** before measuring the resistances of the main wire and branch wire.
- After the ignition switch is turned **OFF**, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

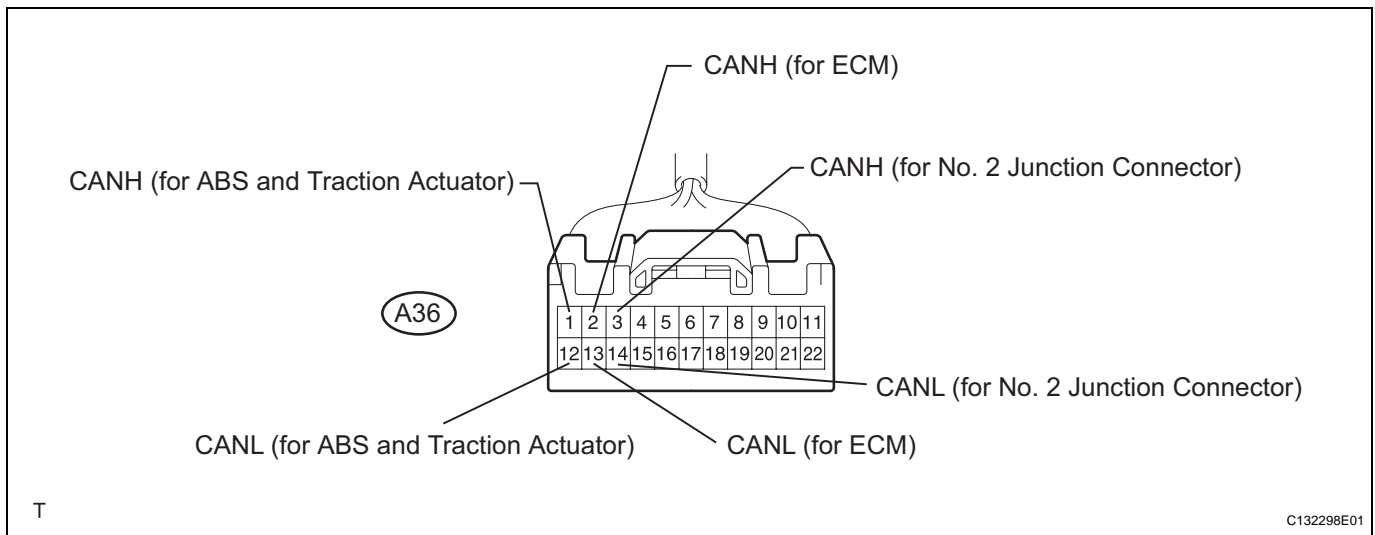
HINT:

Operating the ignition switch, any other switches or the doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1. JUNCTION CONNECTOR

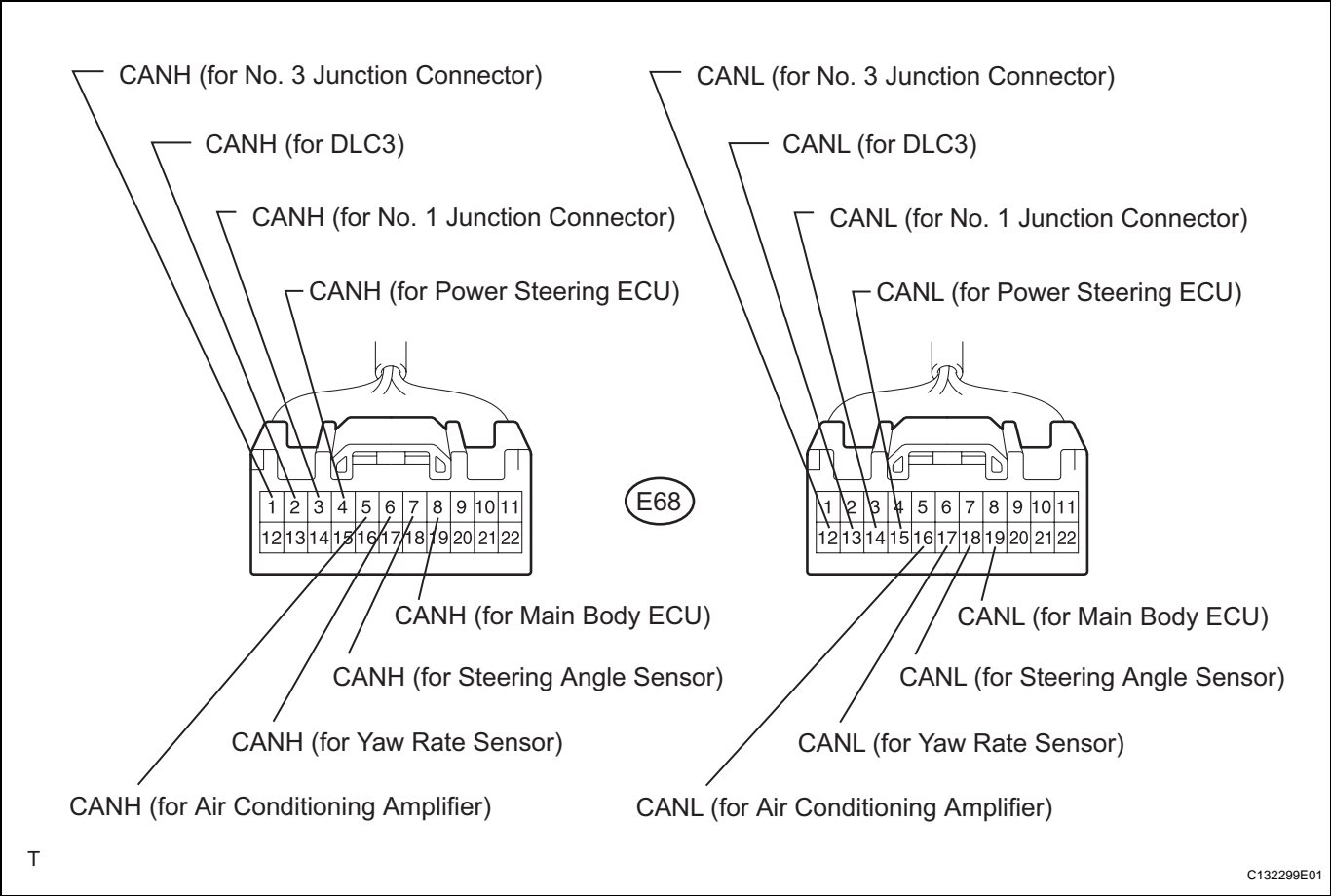
(a) No. 1 junction connector

CA



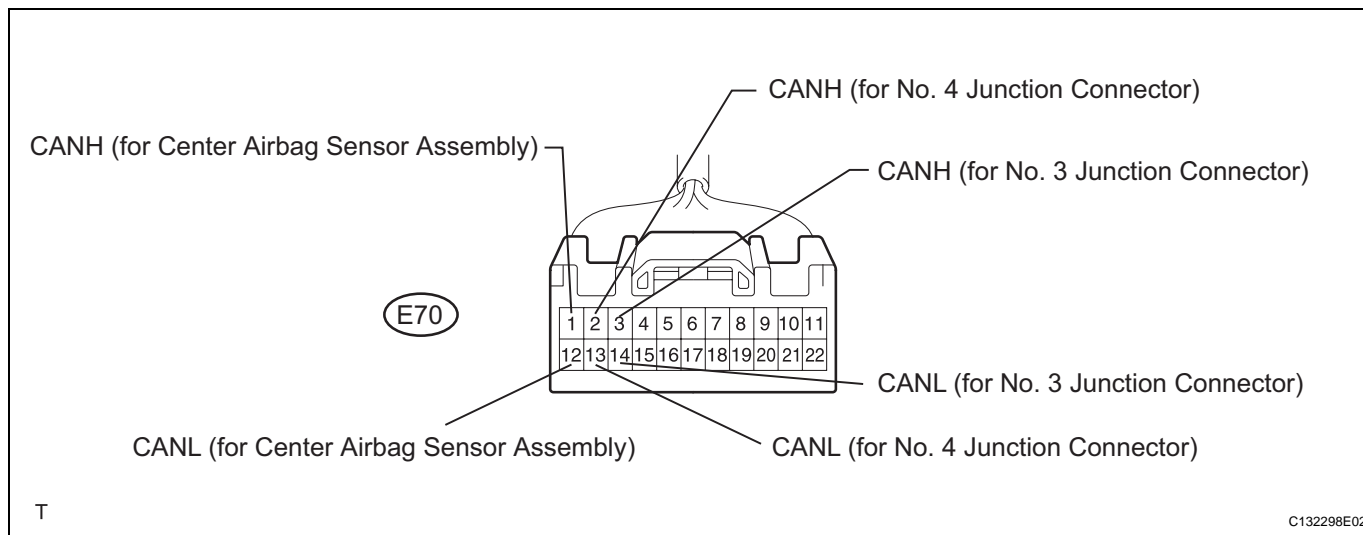
No. 1 Junction Connector	Wiring Color	Connect to
CANH (A36-1)	R	ABS and traction actuator (skid control ECU)
CANL (A36-12)	W	ABS and traction actuator (skid control ECU)
CANH (A36-2)	Y	ECM
CANL (A36-13)	W	ECM
CANH (A36-3)	L	No. 2 junction connector
CANL (A36-14)	W	No. 2 junction connector

(b) No. 2 junction connector



No. 2 Junction Connector	Wiring Color	Connect to
CANH (E68-3)	L	No. 1 junction connector
CANL (E68-14)	W	No. 1 junction connector
CANH (E68-6)	L	Yaw rate sensor
CANL (E68-17)	W	Yaw rate sensor
CANH (E68-4)	Y	Power steering ECU
CANL (E68-15)	W	Power steering ECU
CANH (E68-8)	R	Main body ECU
CANL (E68-19)	W	Main body ECU
CANH (E68-7)	BR	Steering angle sensor
CANL (E68-18)	W	Steering angle sensor
CANH (E68-2)	B	DLC3
CANL (E68-13)	W	DLC3
CANH (E68-5)	V	Air conditioning amplifier
CANL (E68-16)	W	Air conditioning amplifier
CANH (E68-1)	O	No. 3 junction connector
CANL (E68-12)	W	No. 3 junction connector

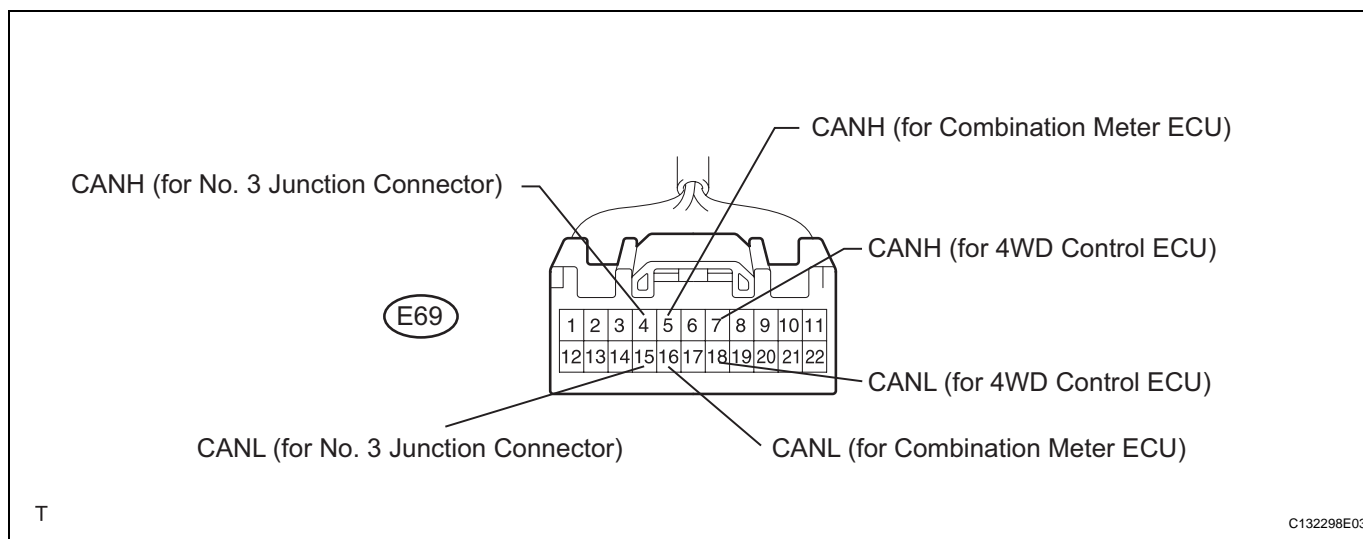
(c) No. 3 junction connector



No. 3 Junction Connector	Wiring Color	Connect to
CANH (E70-3)	O	No. 2 junction connector
CANL (E70-14)	W	No. 2 junction connector
CANH (E70-1)	B	Center airbag sensor assembly
CANL (E70-12)	W	Center airbag sensor assembly
CANH (E70-2)	V	No. 4 junction connector
CANL (E70-13)	W	No. 4 junction connector

CA

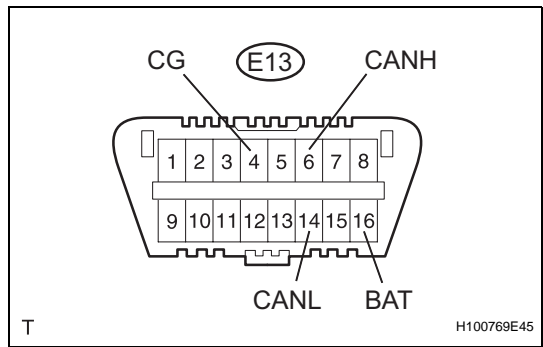
(d) No. 4 junction connector



No. 4 Junction Connector	Wiring Color	Connect to
CANH (E69-4)	V	No. 3 junction connector
CANL (E69-15)	W	No. 3 junction connector
CANH (E69-7)	P	4WD control ECU*
CANL (E69-18)	W	4WD control ECU*
CANH (E69-5)	G	Combination meter ECU
CANL (E69-16)	W	Combination meter ECU

HINT:

*: for 4WD



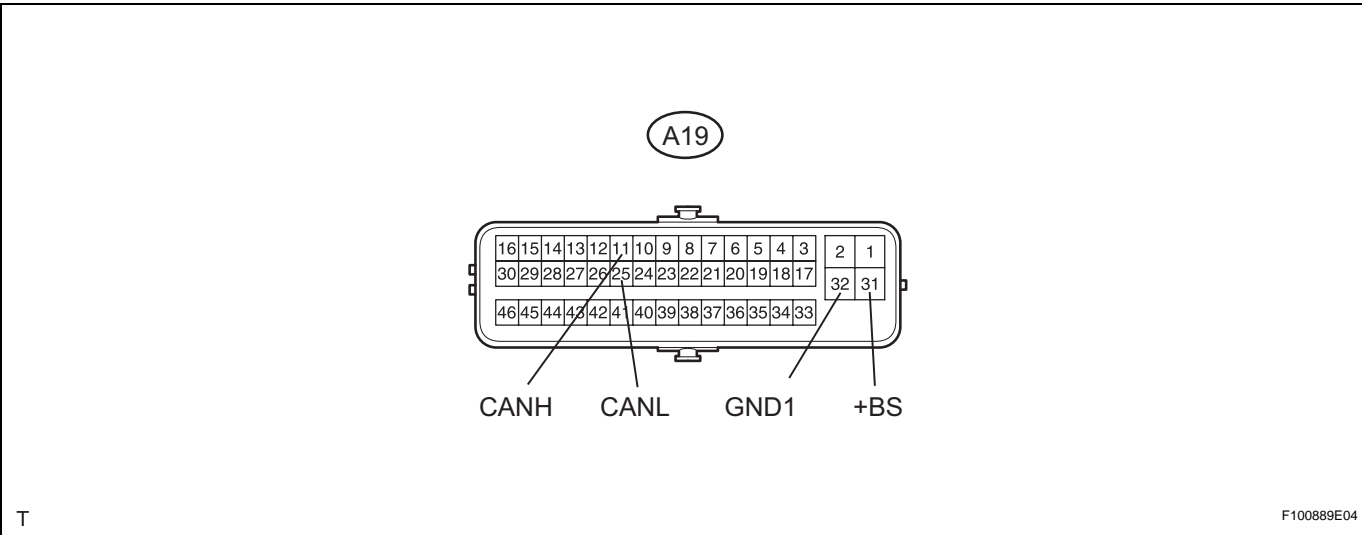
2. CHECK DLC3

- (a) Measure the resistance of the connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E13-6) - CANL (E13-14)	B - W	Ignition switch OFF	54 to 69 Ω
CANH (E13-6) - CG (E13-4)	B - BR	Ignition switch OFF	200 Ω or more
CANL (E13-14) - CG (E13-4)	W - BR	Ignition switch OFF	200 Ω or more
CANH (E13-6) - BAT (E13-16)	B - L	Ignition switch OFF	1 M Ω or more
CANL (E13-14) - BAT (E13-16)	W - L	Ignition switch OFF	1 M Ω or more

CA

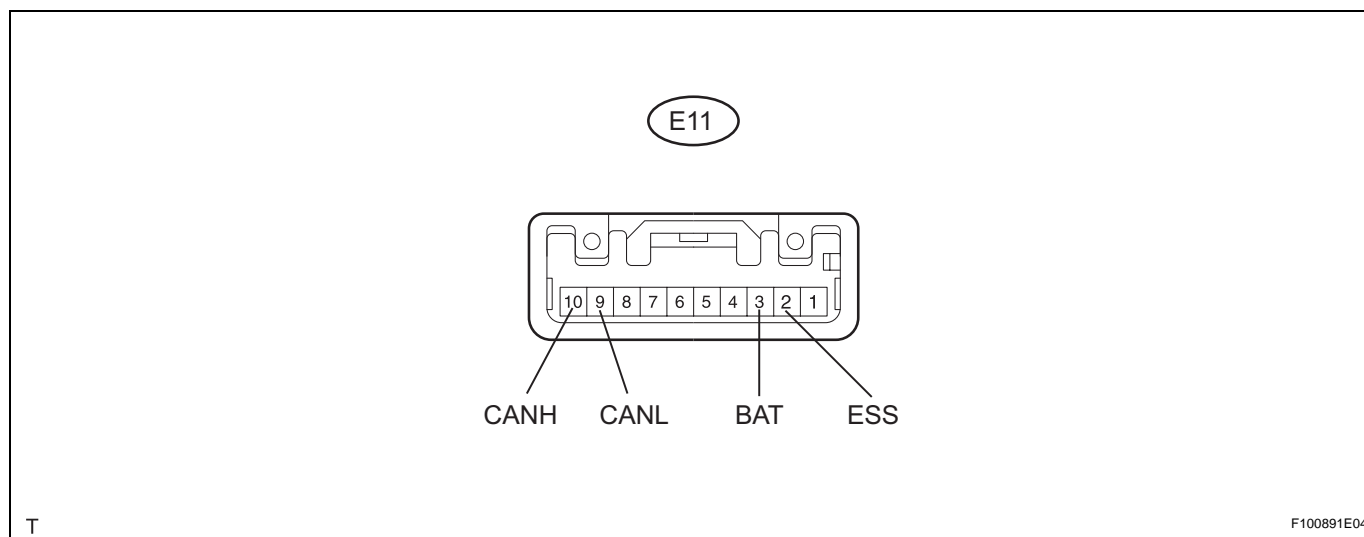
3. CHECK ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)



- (a) Disconnect the A19 ECU connector.
(b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (A19-11) - CANL (A19-25)	R - W	Ignition switch OFF	54 to 69 Ω
CANH (A19-11) - GND1 (A19-32)	R - W-B	Ignition switch OFF	200 Ω or more
CANL (A19-25) - GND1 (A19-32)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (A19-11) - +BS (A19-31)	R - W	Ignition switch OFF	1 M Ω or more
CANL (A19-25) - +BS (A19-31)	W - W	Ignition switch OFF	1 M Ω or more

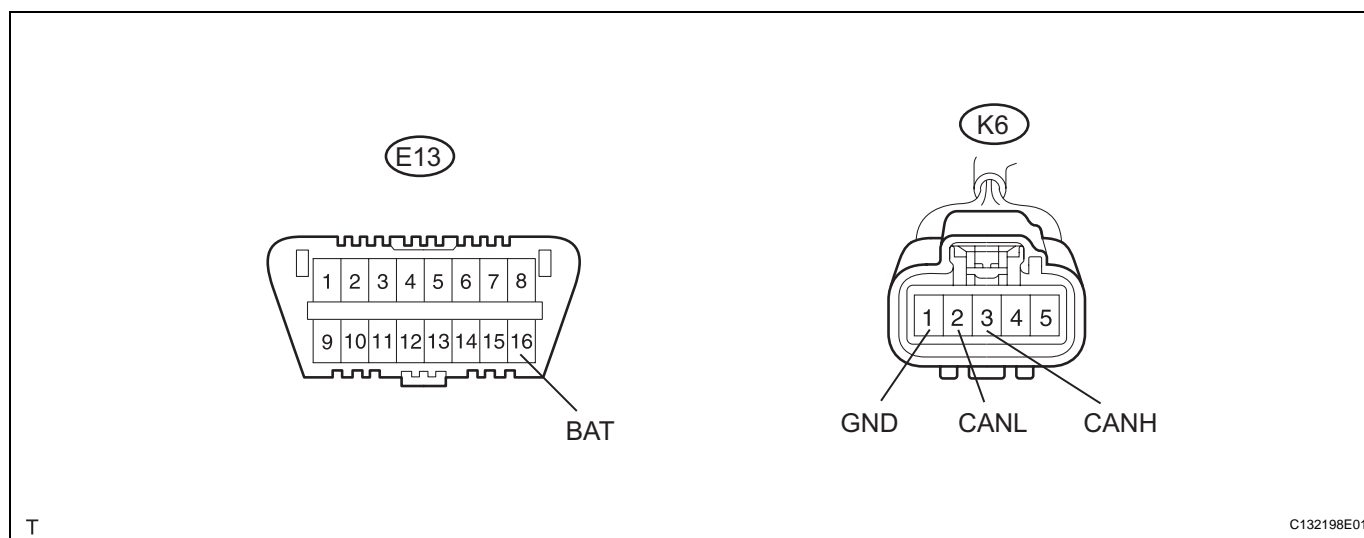
4. CHECK STEERING ANGLE SENSOR



- (a) Disconnect the E11 sensor connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E11-10) - CANL (E11-9)	BR - W	Ignition switch OFF	54 to 69 Ω
CANH (E11-10) - ESS (E11-2)	BR - W-B	Ignition switch OFF	200 Ω or more
CANL (E11-9) - ESS (E11-2)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E11-10) - BAT (E11-3)	BR - R	Ignition switch OFF	1 M Ω or more
CANL (E11-9) - BAT (E11-3)	W - R	Ignition switch OFF	1 M Ω or more

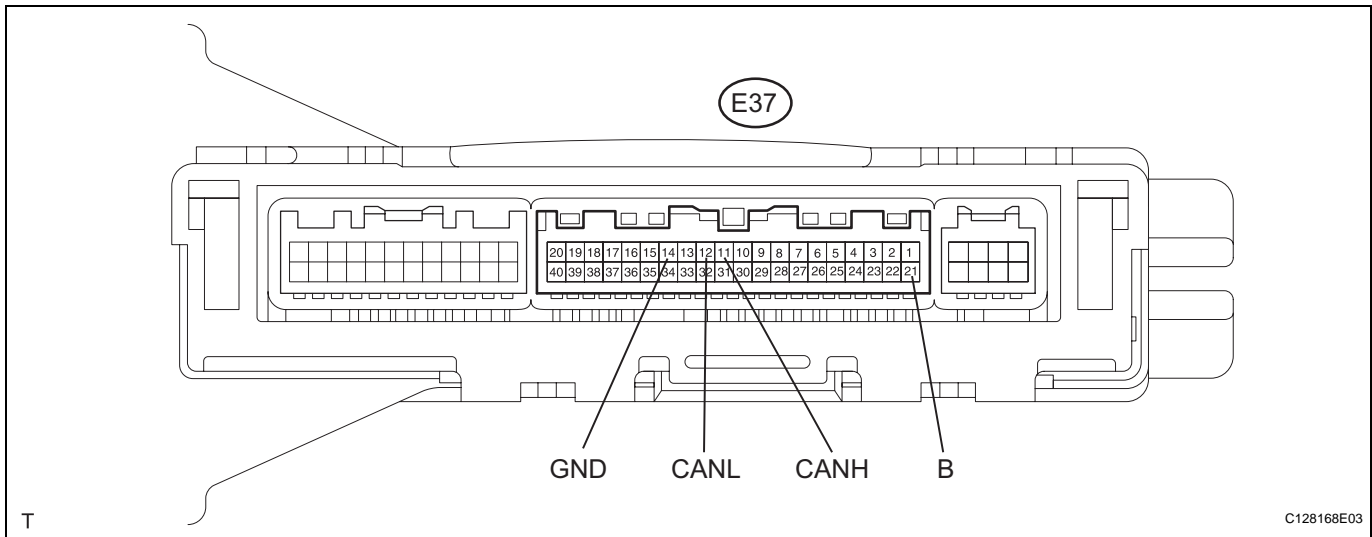
5. CHECK YAW RATE SENSOR



- (a) Disconnect the K6 sensor connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (K6-3) - CANL (K6-2)	L - W	Ignition switch OFF	54 to 69 Ω
CANH (K6-3) - GND (K6-1)	L - W-B	Ignition switch OFF	200 Ω or more
CANL (K6-2) - GND (K6-1)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (K6-3) - BAT (E13-16)	L - L	Ignition switch OFF	1 M Ω or more
CANL (K6-2) - BAT (E13-16)	W - L	Ignition switch OFF	1 M Ω or more

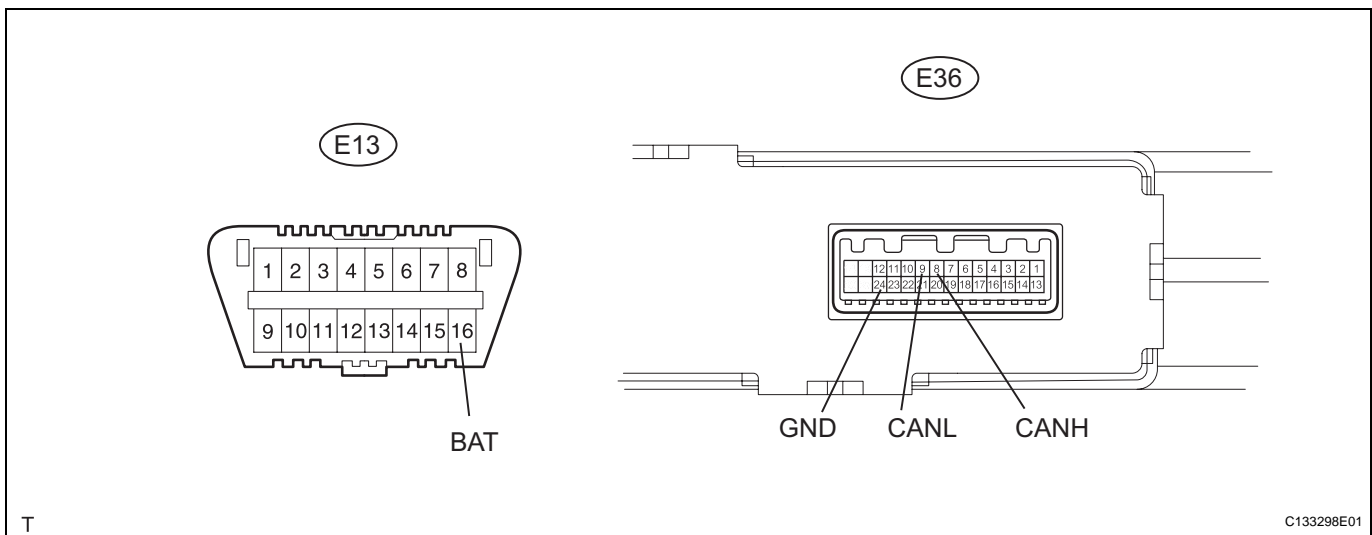
6. CHECK AIR CONDITIONING AMPLIFIER (for Automatic Air Conditioning System)



- Disconnect the E37 amplifier connector.
- Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E37-11) - CANL (E37-12)	V - W	Ignition switch OFF	54 to 69 Ω
CANH (E37-11) - GND (E37-14)	V - W-B	Ignition switch OFF	200 Ω or more
CANL (E37-12) - GND (E37-14)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E37-11) - B (E37-21)	V - R	Ignition switch OFF	1 M Ω or more
CANL (E37-12) - B (E37-21)	W - R	Ignition switch OFF	1 M Ω or more

7. CHECK AIR CONDITIONING AMPLIFIER (for Manual Air Conditioning System)

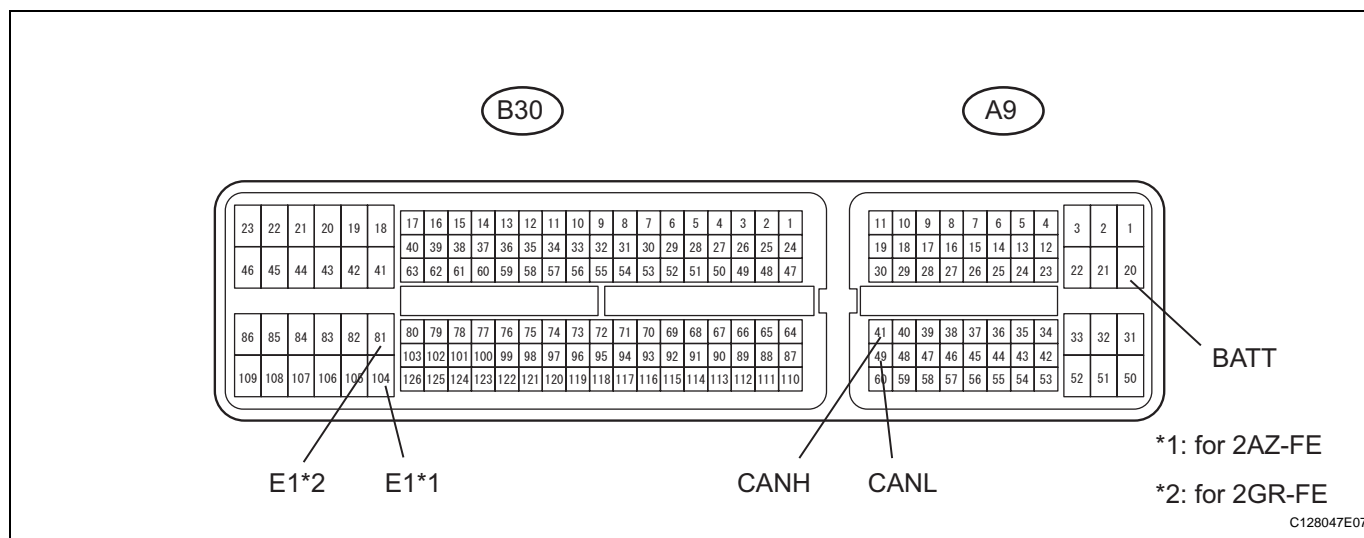


- Disconnect the E36 amplifier connector.
- Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E36-8) - CANL (E36-9)	V - W	Ignition switch OFF	54 to 69 Ω
CANH (E36-8) - GND (E36-24)	V - W-B	Ignition switch OFF	200 Ω or more
CANL (E36-9) - GND (E36-24)	W - W-B	Ignition switch OFF	200 Ω or more

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E36-8) - BAT (E13-16)	V - L	Ignition switch OFF	1 MΩ or more
CANH (E36-9) - BAT (E13-16)	W - L	Ignition switch OFF	1 MΩ or more

8. CHECK ECM



- Disconnect the A9 and B30 ECM connectors.
- Measure the resistance of the wire harness side connectors.

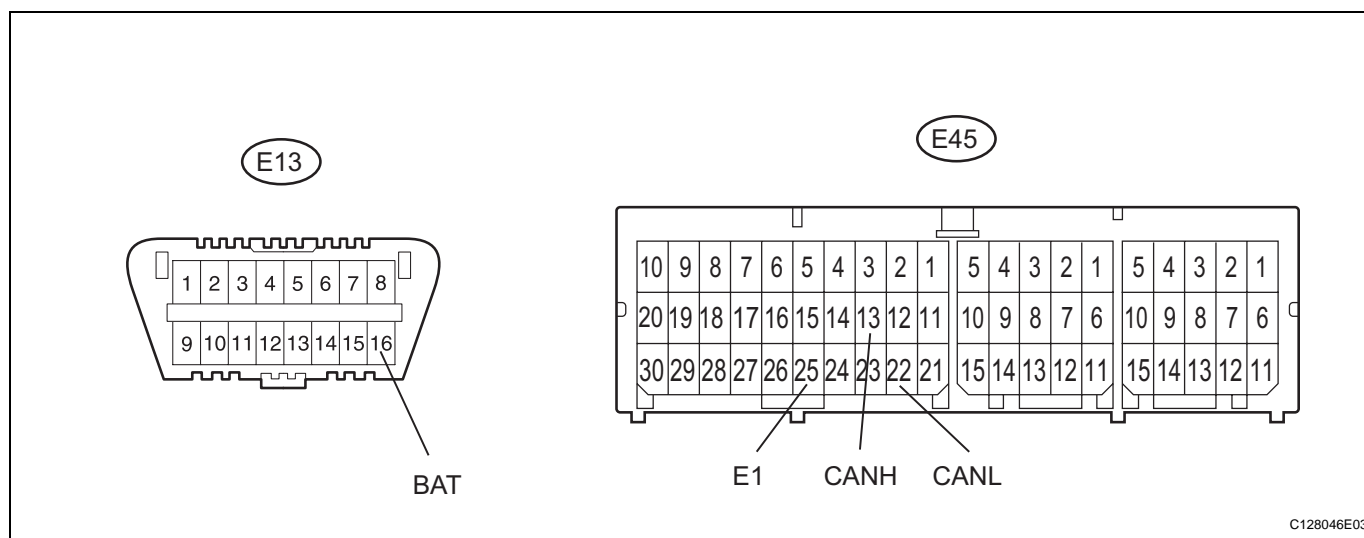
Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (A9-41) - CANL (A9-49)	Y - W	Ignition switch OFF	108 to 132 Ω
CANH (A9-41) - E1 (B30-104)*1	Y - BR	Ignition switch OFF	200 Ω or more
CANL (A9-49) - E1 (B30-104)*1	W - BR	Ignition switch OFF	200 Ω or more
CANH (A9-41) - E1 (B30-81)*2	Y - BR	Ignition switch OFF	200 Ω or more
CANL (A9-49) - E1 (B30-81)*2	W - BR	Ignition switch OFF	200 Ω or more
CANH (A9-41) - BATT (A9-20)	Y - W	Ignition switch OFF	1 MΩ or more
CANL (A9-49) - BATT (A9-20)	W - W	Ignition switch OFF	1 MΩ or more

HINT:

*1: for 2AZ-FE

*2: for 2GR-FE

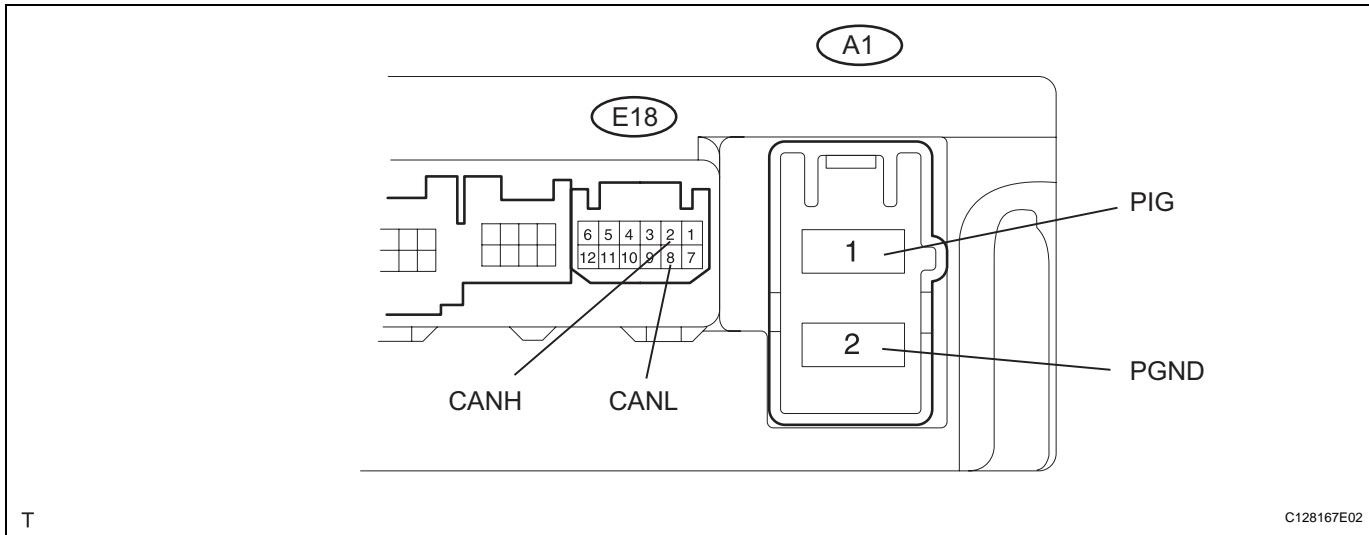
9. CHECK CENTER AIRBAG SENSOR ASSEMBLY



- (a) Disconnect the E45 sensor connector.
- (b) Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E45-13) - CANL (E45-22)	B - W	Ignition switch OFF	54 to 69 Ω
CANH (E45-13) - E1 (E45-25)	B - W-B	Ignition switch OFF	200 Ω or more
CANL (E45-22) - E1 (E45-25)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E45-13) - BAT (E13-16)	B - L	Ignition switch OFF	1 M Ω or more
CANL (E45-22) - BAT (E13-16)	W - L	Ignition switch OFF	1 M Ω or more

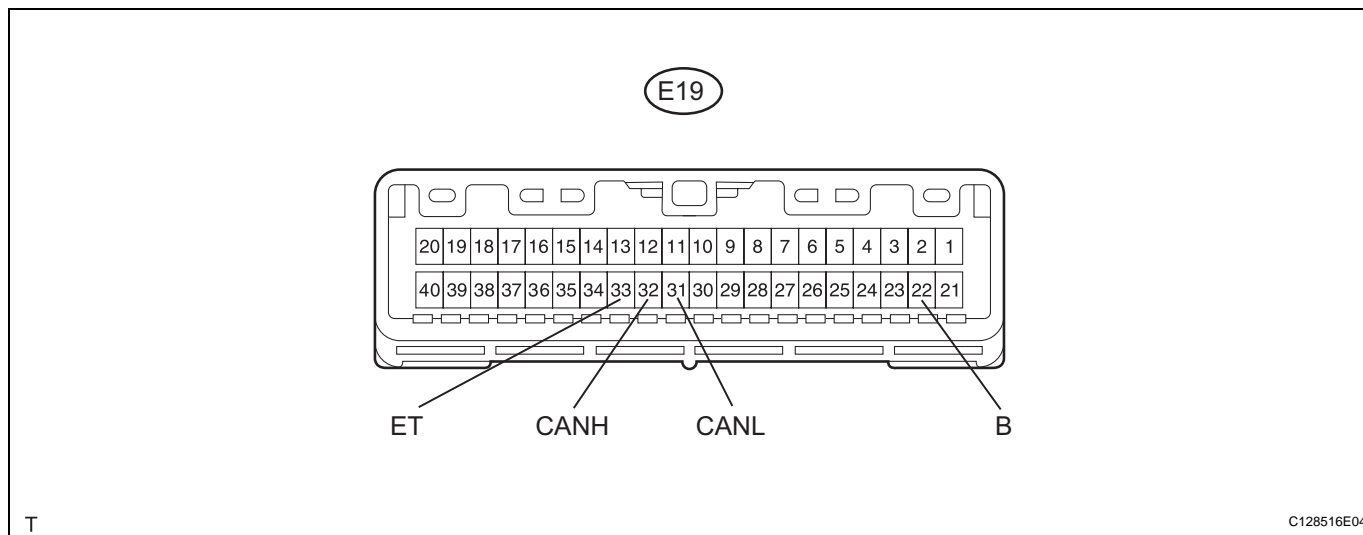
10. CHECK POWER STEERING ECU



- (a) Disconnect the A1 and E18 ECU connectors.
- (b) Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E18-2) - CANL (E18-8)	Y - W	Ignition switch OFF	54 to 69 Ω
CANH (E18-2) - PGND (A1-2)	Y - W-B	Ignition switch OFF	200 Ω or more
CANL (E18-8) - PGND (A1-2)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E18-2) - PIG (A1-1)	Y - W-B	Ignition switch OFF	1 M Ω or more
CANL (E18-8) - PIG (A1-1)	W - W-B	Ignition switch OFF	1 M Ω or more

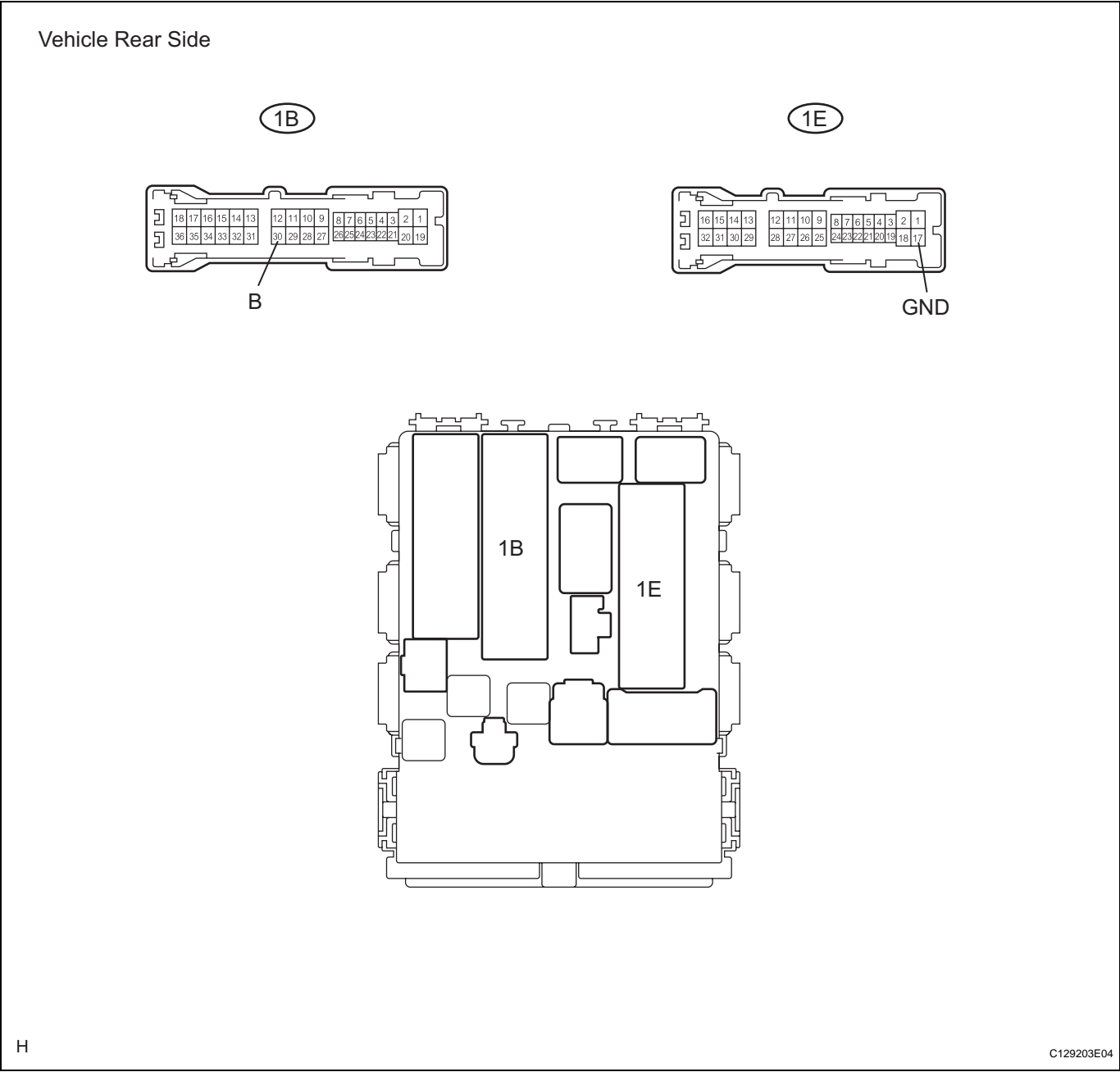
11. CHECK COMBINATION METER ECU



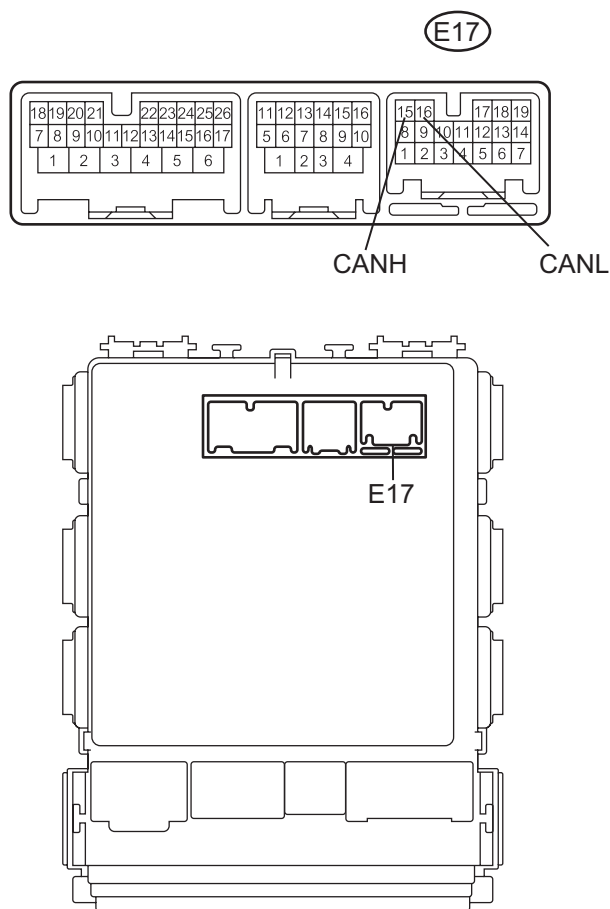
- (a) Disconnect the E19 ECU connector.
 (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E19-32) - CANL (E19-31)	G - W	Ignition switch OFF	108 to 132 Ω
CANH (E19-32) - CANL (E19-31)	G - BR	Ignition switch OFF	200 Ω or more
CANL (E19-31) - ET (E19-33)	W - BR	Ignition switch OFF	200 Ω or more
CANH (E19-32) - B (E19-22)	G - R	Ignition switch OFF	1 M Ω or more
CANL (E19-31) - B (E19-22)	W - R	Ignition switch OFF	1 M Ω or more

12. CHECK INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)



Vehicle Front Side



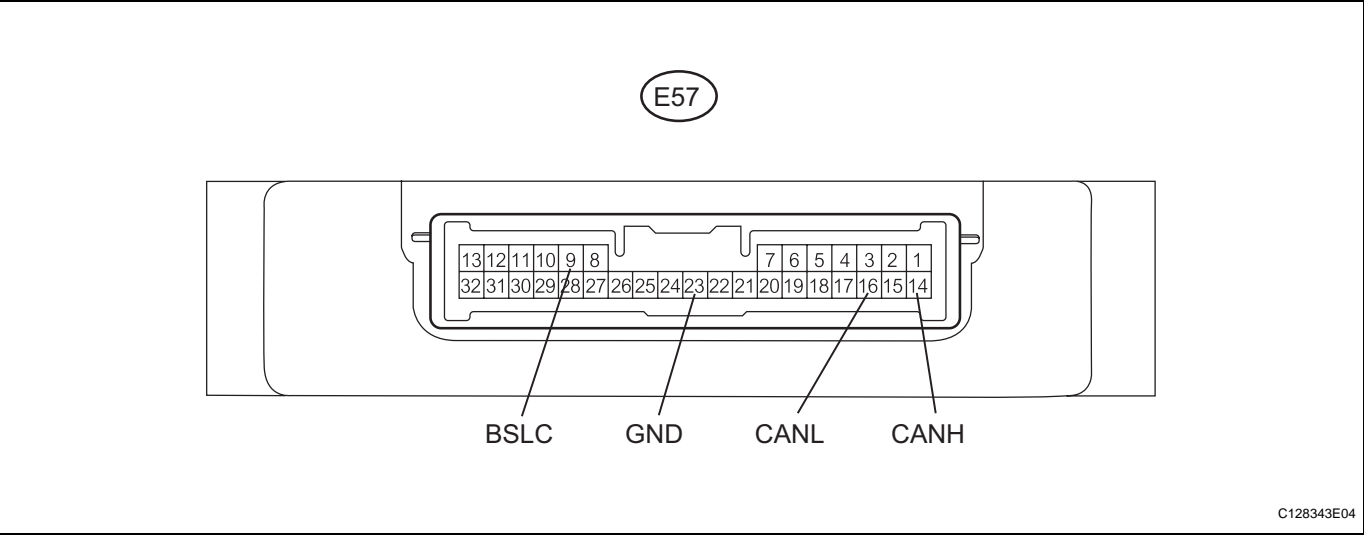
C129202E06

- Disconnect the 1B and 1E junction block connectors.
- Disconnect the E17 ECU connector.
- Measure the resistance of the wire harness side connectors.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E17-15) - CANL (E17-16)	R - W	Ignition switch OFF	54 to 69 Ω
CANH (E17-15) - GND1 (1E-17)	R - W-B	Ignition switch OFF	200 Ω or more
CANL (E17-16) - GND1 (1E-17)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E17-15) - BECU (1B-30)	R - R	Ignition switch OFF	1 M Ω or more
CANL (E17-16) - BECU (1B-30)	W - R	Ignition switch OFF	1 M Ω or more

CA

13. CHECK 4WD CONTROL ECU (for 4WD)



CA

- (a) Disconnect the E57 ECU connector.
- (b) Measure the resistance of the wire harness side connector.

Symbols (Terminal No.)	Wiring Color	Condition	Specified Condition
CANH (E57-14) - CANL (E57-16)	P - W	Ignition switch OFF	54 to 69 Ω
CANH (E57-14) - GND (E57-23)	P - W-B	Ignition switch OFF	200 Ω or more
CANL (E57-16) - GND (E57-23)	W - W-B	Ignition switch OFF	200 Ω or more
CANH (E57-14) - BSLC (E57-9)	P - R	Ignition switch OFF	1 MΩ or more
CANL (E57-16) - BSLC (E57-9)	W -R	Ignition switch OFF	1 MΩ or more

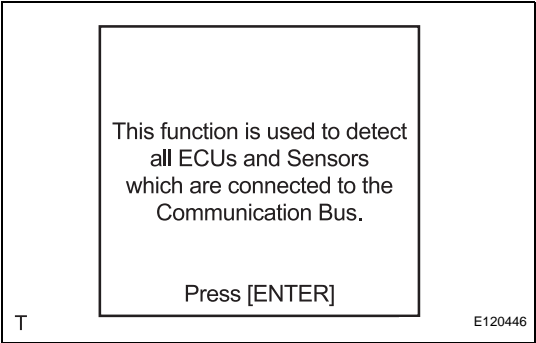
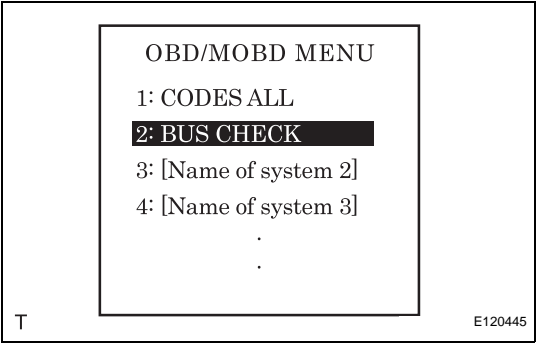
DIAGNOSIS SYSTEM

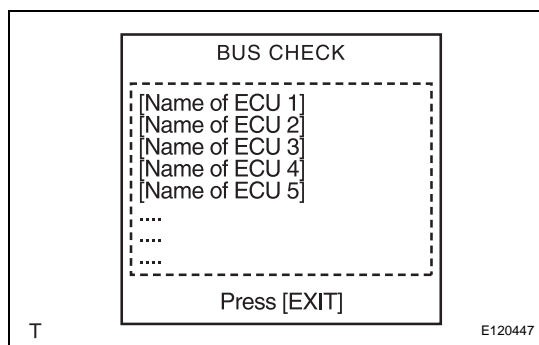
1. BUS CHECK

- (a) Select "BUS CHECK" from the "OBD / MOBD MENU" screen.

HINT:
The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester via CAN VIM.

- (b) Press "ENTER" on the intelligent tester via CAN VIM.





- (c) The screen displayed the ECUs and sensors that are properly connected to the CAN communication system.

HINT:

There is a communication stop in the system of any properly connected ECUs or sensors that are not displayed (see page [CA-10](#)).

2. CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

- (a) System (ECUs and sensors) that use CAN communication vary depending on the vehicle's optional settings. Check which systems (ECUs and sensors) are installed on the vehicle.

ECU / Sensor name	Installed to
ABS and traction actuator (skid control ECU)	Vehicle with VSC
Steering sensor	Vehicle with VSC
Yaw rate sensor	Vehicle with VSC
Air conditioning amplifier	All vehicles (Automatic air conditioning system and manual air conditioning system)
ECM	All vehicles
Center airbag sensor assembly	All vehicles
Power steering ECU	All vehicles
Main body ECU	All vehicles
Combination meter ECU	All vehicles
4WD control ECU	Vehicle with 4WD

CA

3. DTC TABLE BY ECU

HINT:

- In the CAN communication system, CAN communication system DTCs output by the ECU can be displayed by using the intelligent tester.
- If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "HOW TO PROCEED WITH TROUBLESHOOTING" (see page [CA-8](#)).

- (a) ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

HINT:

DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0073/94	Control Module Communication Bus OFF
U0100/65	Lost Communication with ECM / PCM
U0123/62	Lost Communication with Yaw Rate Sensor Module
U0124/95	Lost Communication with Lateral Acceleration Sensor Module
U0126/63	Lost Communication with Steering Angle Sensor Module

- (b) POWER STEERING ECU

HINT:

DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0073/49	Control Module Communication Bus OFF
U0105/41	Lost Communication with ECM
U0121/42	Lost Communication with Anti-lock Brake System (ABS) Control Module

- (c) ECM
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0122	Lost Communication with Vehicle Dynamic Control Module
U0129	Lost Communication with Brake System Control Module

- (d) AIR CONDITIONING AMPLIFIER
For vehicle with air conditioning (Automatic air conditioning system and Manual air conditioning system).
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
B1499/99	Multiplex Communication Circuit

- (e) COMBINATION METER ECU
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0100	Lost Communication with ECM/PCM "A"
U0129	Lost Communication with Skid Control ECU

- (f) 4WD CONTROL ECU
For vehicle with 4WD only.
HINT:
DTC communication uses the CAN communication system.

DTC No.	Detection Item
U0073/86	Control Module Communication Bus OFF
U0100/85	Lost Communication with ECM / PCM "A"
U0126/84	Lost Communication with Steering Angle Sensor Module
U0129/83	Lost Communication with Brake System Control Module

- (g) MAIN BODY ECU
HINT:
The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not output.

- (h) CENTER AIRBAG SENSOR
HINT:
The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not output.

4. DTC COMBINATION TABLE

DTC		Detected Communication Stop Mode				
Output from	Output DTC	ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) COMMUNICATION STOP MODE	POWER STEERING ECU COMMUNICATION STOP MODE	STEERING ANGLE SENSOR COMMUNICATION STOP MODE	YAW RATE SENSOR COMMUNICATION STOP MODE	ECM COMMUNICATION STOP MODE
ABS and Traction Actuator (Skid Control ECU)	U0073/94	○	X	X	X	X
	U0100/65	○	X	X	X	○
	U0123/62	○	X	X	○	X
	U0124/95	○	X	X	○	X
	U0126/63	○	X	○	X	X
Power Steering ECU	U0073/49	X	○	X	X	X
	U0105/41	X	○	X	X	X
	U0121/42	X	○	X	X	X
ECM	U0122	○	X	X	X	○
	U0129	○	X	X	X	○
Air Conditioning Amplifier	B1499/99	X	X	X	X	○
Combination Meter ECU	U0100	X	X	X	X	○
	U0129	○	X	X	X	X
4WD Control ECU	U0073/86	X	X	X	X	X
	U0100/85	X	X	X	X	○
	U0126/84	X	X	○	X	X
	U0129/83	○	X	X	X	X

HINT:

- ○: Outputs under condition shown in table above
- X: Not output

DTC		Detected Communication Stop Mode				
Output from	Output DTC	CENTER AIRBAG ASSEMBLY COMMUNICATION MODE	AIR CONDITIONING AMPLIFIER COMMUNICATION STOP MODE	COMBINATION METER ECU COMMUNICATION STOP MODE	MAIN BODY ECU COMMUNICATION STOP MODE	4WD CONTROL ECU COMMUNICATION STOP MODE
ABS and Traction Actuator (Skid Control ECU)	U0073/94	X	X	X	X	X
	U0100/65	X	X	X	X	X
	U0123/62	X	X	X	X	X
	U0124/95	X	X	X	X	X
	U0126/63	X	X	X	X	X
Power Steering ECU	U0073/49	X	X	X	X	X
	U0105/41	X	X	X	X	X
	U0121/42	X	X	X	X	X
ECM	U0122	X	X	X	X	X
	U0129	X	X	X	X	X
Air Conditioning Amplifier	B1499/99	X	○	○	X	X
Combination Meter ECU	U0100	X	X	X	X	X
	U0129	X	X	X	X	X

CA

DTC		Detected Communication Stop Mode				
4WD Control ECU	U0073/86	X	X	X	X	○
	U0100/85	X	X	X	X	○
	U0126/84	X	X	X	X	○
	U0129/83	X	X	X	X	○

HINT:

- ○: Outputs under condition shown in table above
- X: Not output
- Check the stop mode by using the results of the BUS CHECK for the center airbag sensor (see page [CA-69](#)) and main body ECU (see page [CA-64](#)).

(a) Perform troubleshooting according to the combination of DTCs output.

- ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) COMMUNICATION STOP MODE: (see page [CA-42](#))
- POWER STEERING ECU COMMUNICATION STOP MODE: (see page [CA-49](#))
- STEERING ANGLE SENSOR COMMUNICATION STOP MODE: (see page [CA-52](#))
- YAW RATE SENSOR COMMUNICATION STOP MODE: (see page [CA-55](#))
- ECM COMMUNICATION STOP MODE: (see page [CA-58](#))
- AIR CONDITIONING AMPLIFIER COMMUNICATION STOP MODE: (see page [CA-45](#))
- COMBINATION METER ECU COMMUNICATION SYSTEM: (see page [CA-67](#))
- 4WD CONTROL ECU COMMUNICATION STOP MODE: (see page [CA-72](#))

FAIL-SAFE CHART

1. FAIL-SAFE FUNCTION

- (a) When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.
- (b) The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

Function	ECM	ABS and Traction Actuator (Skid Control ECU)	Yaw Rate Sensor	Steering Angle Sensor	4WD Control ECU	Condition when communication impossible	DTC detection (Driver detectable)
Navi-CVT cooperative control (appropriate gear change control according to curve, incline, or driver's instructions)	●					Cooperative control cancellation	None (Brakes are not as effective when entering curves)
Normal cruise control (Maintains vehicle speed)	●	○				Normal cruise function stops	Detectable (Light comes on)
Neutral control	●	○				Neutral control function stops	None
Air conditioning control (Vehicle interior A/C control)	○					Air conditioning function stops	None (Air conditioning inoperative)
VSC control (Controls driving force while VSC in operation)	○	●	○	○		Control inoperative (gradually stops controlling during VSC control)	Detectable (Light comes on)
TRC control (Controls driving force and engine power when wheel slip detected during acceleration)	○	●				Control inoperative (gradually stops controlling during TRC control)	Detectable (Light comes on)
4WD control (Controls vehicle driving power distribution to front and rear wheels according to driving conditions)	○	○		○	●	4WD control function stops (same as 2WD)	Detectable (Light comes on)

Function	ECM	ABS and Traction Actuator (Skid Control ECU)	Yaw Rate Sensor	Steering Angle Sensor	4WD Control ECU	Condition when communication impossible	DTC detection (Driver detectable)
Electric power steering control (Vehicle speed response type torque control)	○	○				EPS assist function canceled or reduced (steering wheel becomes harder to turn)	When VSC is abnormal (Light comes on) When engine is abnormal (Function canceled / Recognizable by decrease in steering power assist)
Meter display (Vehicle condition display, indicator light control)	○	○			○	Light does not come on, illuminates abnormally, or blinks abnormally	Detectable (Abnormal display)

HINT:

- : Control master ECU
- : Related ECU or sensor

Function	Power Steering ECU	Center Airbag Sensor Assembly	Air Conditioning Amplifier	Combination Meter ECU	Main Body ECU	Condition when communication impossible	DTC detection (Driver detectable)
Navi-CVT cooperative control (appropriate gear change control according to curve, incline, or driver's instructions)						Cooperative control cancellation	None (Brakes are not as effective when entering curves)
Normal cruise control (Maintains vehicle speed)						Normal cruise function stops	Detectable (Light comes on)
Neutral control						Neutral control function stops	None
Air conditioning control (Vehicle interior A/C control)			●			Air conditioning function stops	None (Air conditioning inoperative)
VSC control (Controls driving force while VSC in operation)						Control inoperative (gradually stops controlling during VSC control)	Detectable (Light comes on)

Function	Power Steering ECU	Center Airbag Sensor Assembly	Air Conditioning Amplifier	Combination Meter ECU	Main Body ECU	Condition when communication impossible	DTC detection (Driver detectable)
TRC control (Controls driving force and engine power when wheel slip detected during acceleration)						Control inoperative (gradually stops controlling during TRC control)	Detectable (Light comes on)
4WD control (Controls vehicle driving power distribution to front and rear wheels according to driving conditions)						4WD control function stops (same as 2WD)	Detectable (Light comes on)
Electric power steering control (Vehicle speed response type torque control)	●					EPS assist function canceled or reduced (steering wheel becomes harder to turn)	When VSC is abnormal (Light comes on) When engine is abnormal (Function canceled / Recognizable by decrease in steering power assist)
Meter display (Vehicle condition display, indicator light control)	○	○	○	●	○	Light does not come on, illuminates abnormally, or blinks abnormally	Detectable (Abnormal display)

HINT:

- : Control master ECU
- : Related ECU or sensor

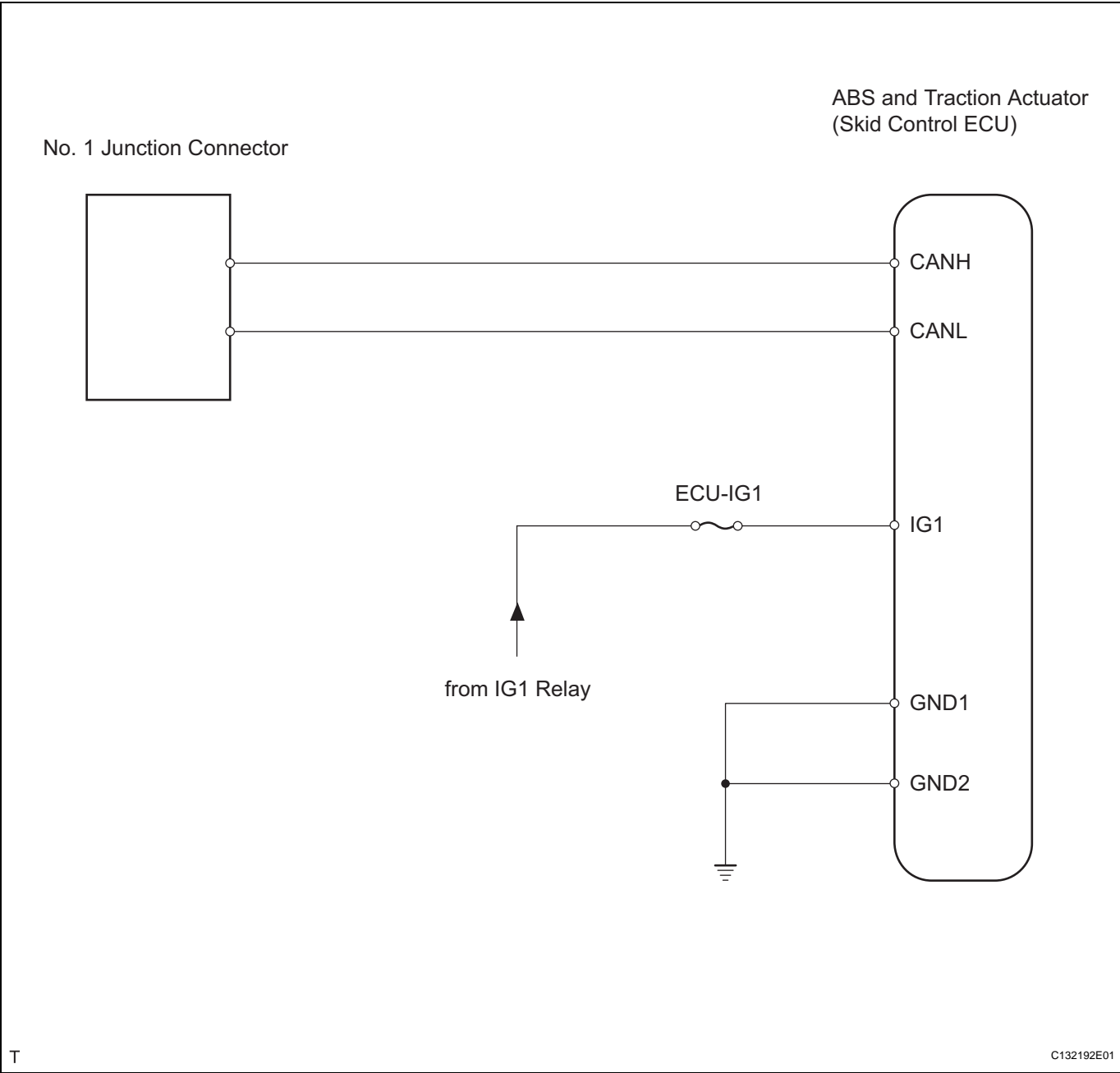
CA

ABS and Traction Actuator (Skid Control ECU) Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) COMMUNICATION STOP MODE	<ul style="list-style-type: none">• ABS / VSC / TRAC is not displayed on "BUS CHECK" screen of intelligent tester• Applies to "ABS AND TRACTION ACTUATOR (SKID CONTROL ECU) COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE"	<ul style="list-style-type: none">• Power source or inside skid control ECU• ABS and traction actuator (skid control ECU) branch wire and connector• ABS and traction actuator (skid control ECU)

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

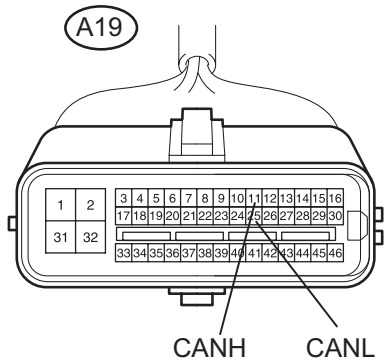
HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE DISCONNECTION (ABS AND TRACTION ACTUATOR BRANCH WIRE)

Wire Harness Side



T

F100890E18

- (a) Disconnect the A19 ABS and traction actuator (skid control ECU) connector.

- (b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
A19-11 (CANH) - A19-25 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

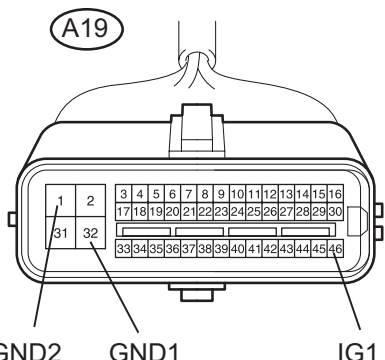
REPAIR OR REPLACE ABS AND TRACTION ACTUATOR BRANCH WIRE AND CONNECTOR (CANH, CANL)

OK

2

CHECK WIRE HARNESS (ABS AND TRACTION ACTUATOR - BATTERY AND BODY GROUND)

Wire Harness Side



T

F100890E17

- (a) Disconnect the A19 ABS and traction actuator (skid control ECU) connector.

- (b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
A19-1 (GND2) - Body ground	Below 1 Ω
A19-32 (GND1) - Body ground	Below 1 Ω

- (c) Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
A19-46 (IG1) - Body ground	Ignition switch ON	10 to 14 V

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

Air Conditioning Amplifier Communication Stop Mode

DESCRIPTION

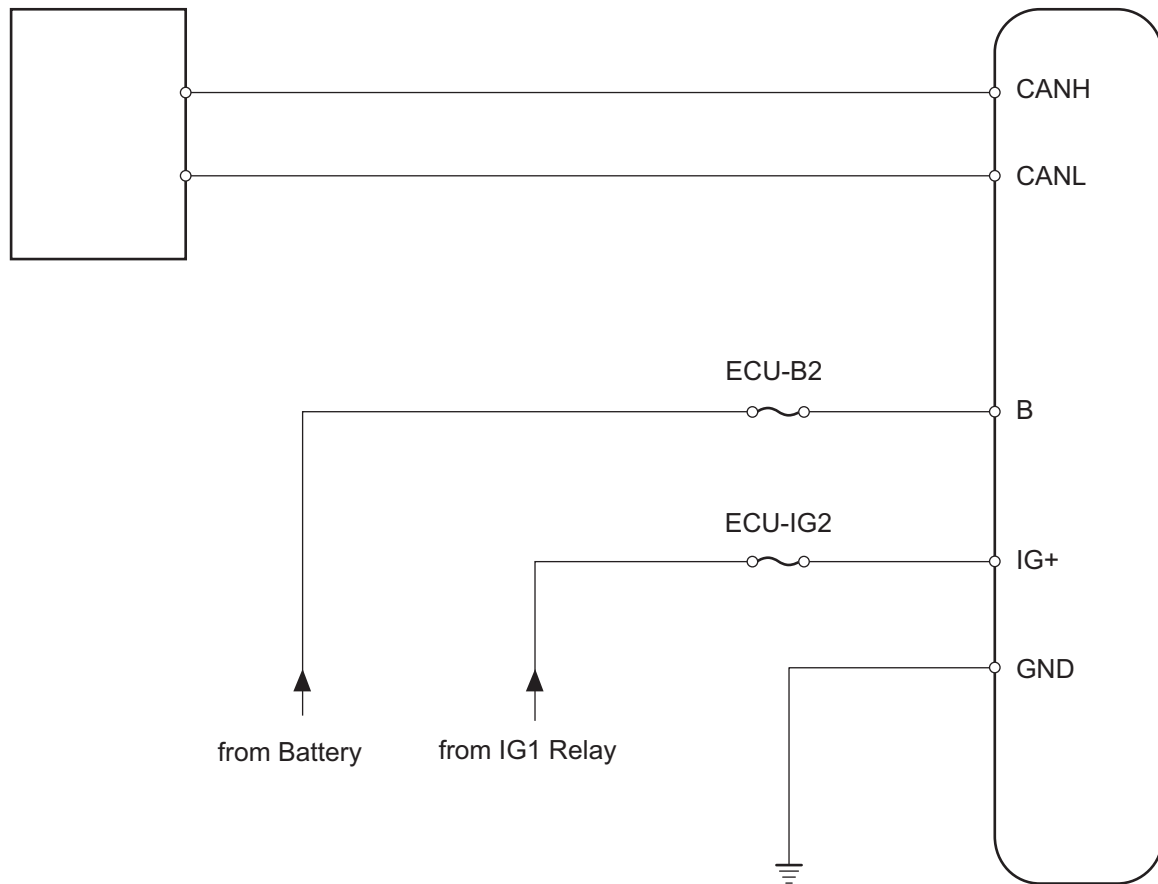
Detection Item	Symptom	Trouble Area
AIR CONDITIONING AMPLIFIER COMMUNICATION STOP MODE	<ul style="list-style-type: none"> A/C is not displayed on "BUS CHECK" screen of intelligent tester Applies to "AIR CONDITIONING AMPLIFIER COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE" 	<ul style="list-style-type: none"> Power source or inside air conditioning amplifier Air conditioning amplifier branch wire and connector Air conditioning amplifier

WIRING DIAGRAM

for Automatic Air Conditioning System

No. 2 Junction Connector

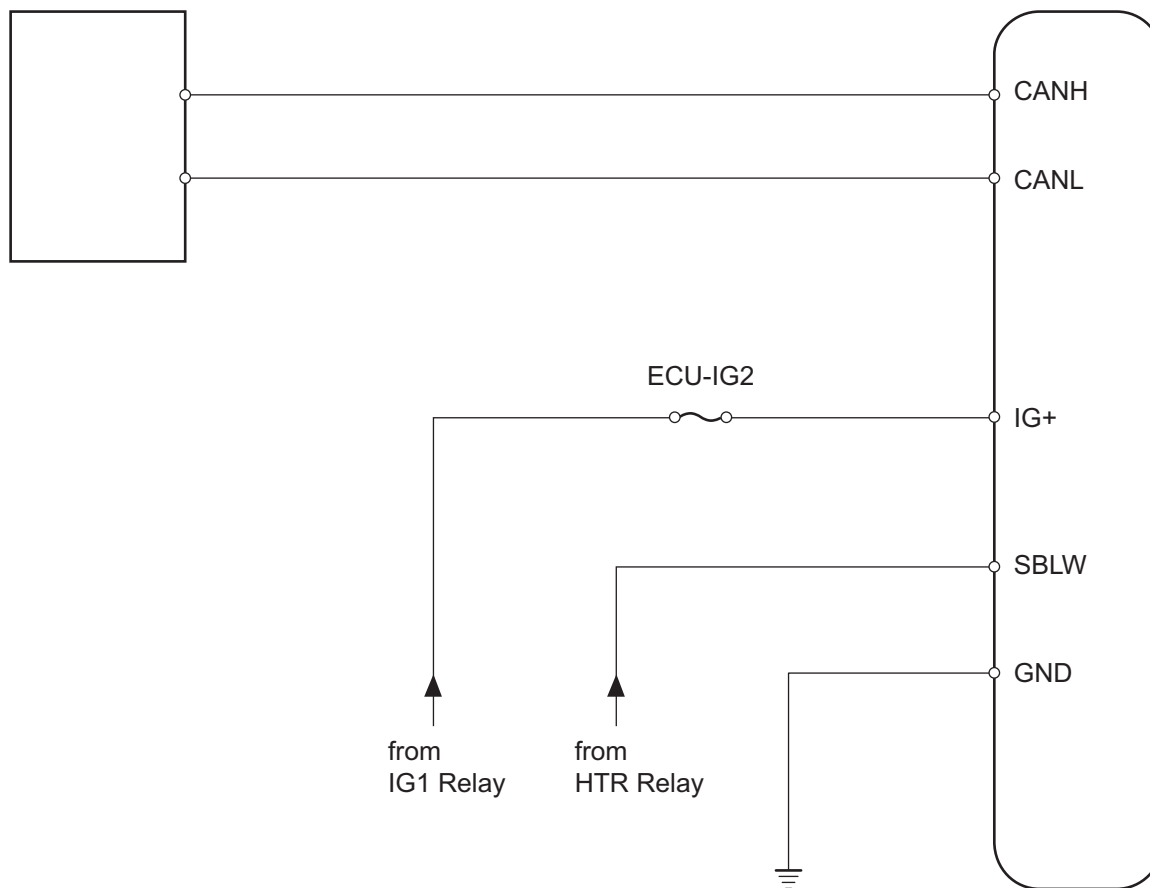
Air Conditioning Amplifier



for Manual Air Conditioning System

No. 2 Junction Connector

Air Conditioning Amplifier



T

C129193E03

INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

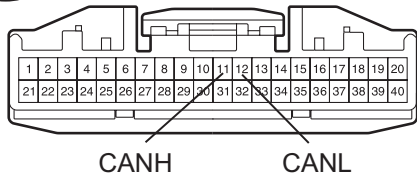
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1 CHECK CAN BUS LINE FOR DISCONNECTION (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

Wire Harness Side

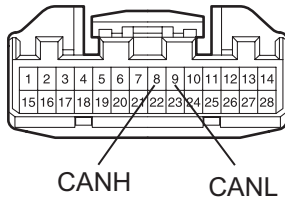
for Automatic Air Conditioning System

E37



for Manual Air Conditioning System

E36



T

C128050E17

- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.

HINT:

- *1: for Automatic air conditioning system.
- *2: for Manual air conditioning system.

- (b) Measure the resistance of the wire harness side connector.

Standard resistance:

for Automatic Air Conditioning System

Tester Connection	Condition	Specified Condition
E37-11 (CANH) - E37-12 (CANL)	Ignition switch OFF	54 to 69 Ω

for Manual Air Conditioning System

Tester Connection	Condition	Specified Condition
E36-8 (CANH) - E36-9 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

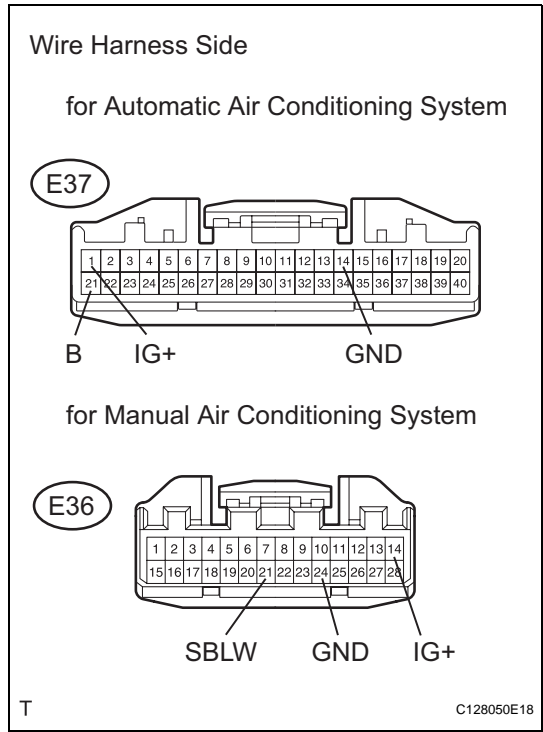
OK

2 CHECK WIRE HARNESS (AIR CONDITIONING AMPLIFIER - BATTERY AND BODY GROUND)

- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.

HINT:

- *1: for Automatic air conditioning system.



- *2: for Manual air conditioning system.
- (b) Measure the resistance of the wire harness side connectors.
- Standard resistance:**
for Automatic Air Conditioning System

Tester Connection	Specified Condition
E37-14 (GND) - Body ground	Below 1 Ω

for Manual Air Conditioning System

Tester Connection	Specified Condition
E36-24 (GND) - Body ground	Below 1 Ω

- (c) Measure the voltage of the wire harness side connector.
- Standard voltage:**
for Automatic Air Conditioning System

Tester Connection	Condition	Specified Condition
E37-21 (B) - Body ground	Always	10 to 14 V
E37-1 (IG+) - Body ground	Ignition switch ON	10 to 14 V

for Manual Air Conditioning System

Tester Connection	Condition	Specified Condition
E36-14 (IG+) - Body ground	Ignition switch ON	10 to 14 V

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

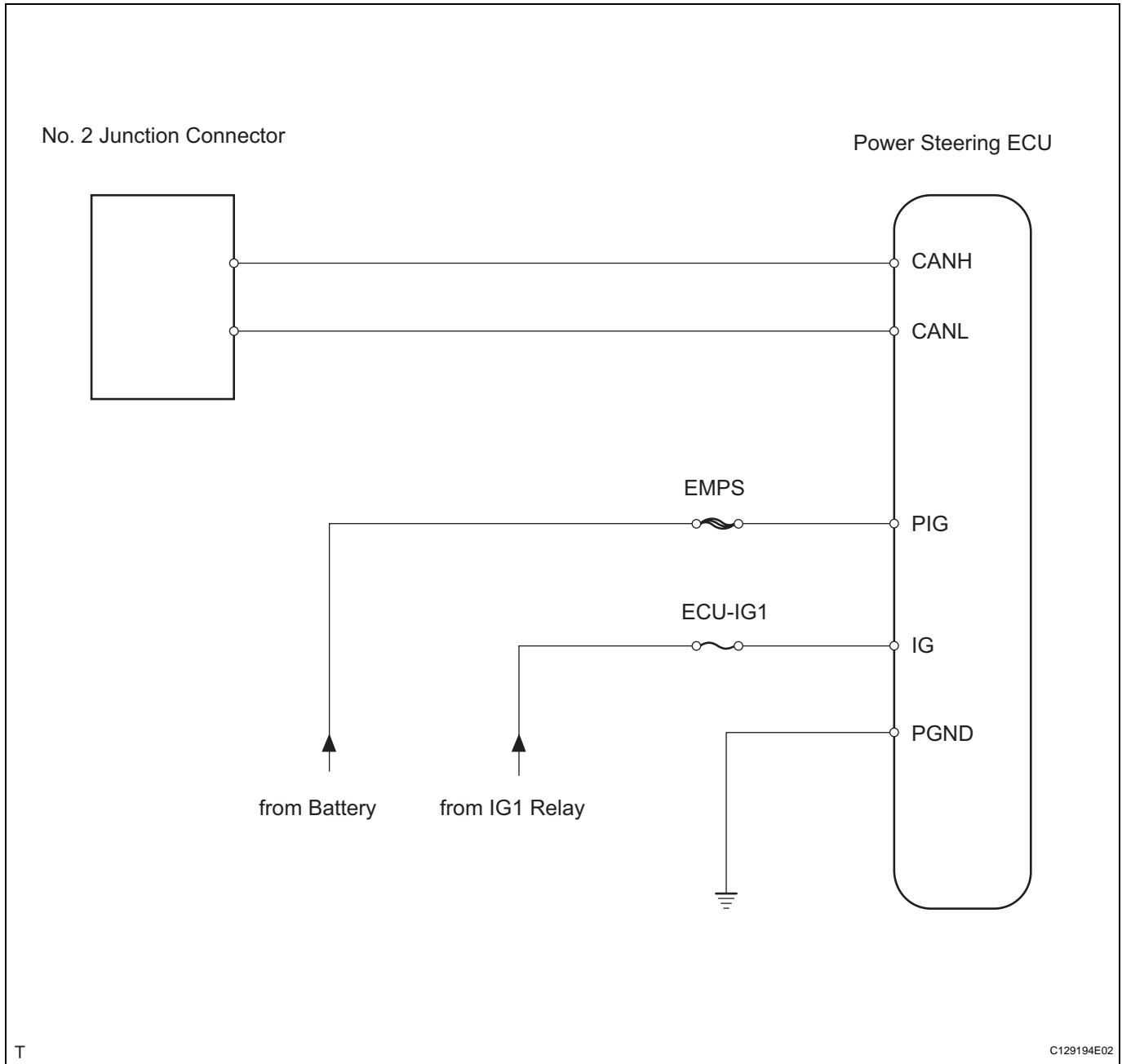
REPLACE AIR CONDITIONING AMPLIFIER

Power Steering ECU Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
POWER STEERING ECU COMMUNICATION STOP MODE	<ul style="list-style-type: none"> EPS is not displayed on "BUS CHECK" screen of intelligent tester Applies to "POWER STEERING ECU COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE" 	<ul style="list-style-type: none"> Power source or inside power steering ECU Power steering ECU branch wire and connector Power steering ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

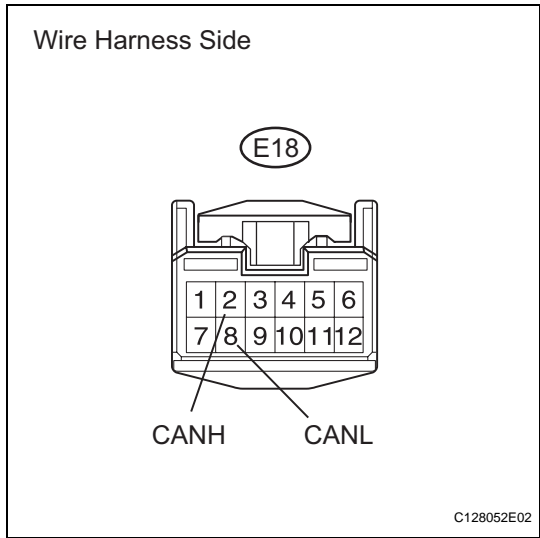
NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR DISCONNECTION (POWER STEERING ECU MAIN WIRE)



- (a) Disconnect the E18 power steering ECU connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E18-2 (CANH) - E18-8 (CANL)	Ignition switch OFF	54 to 69 Ω

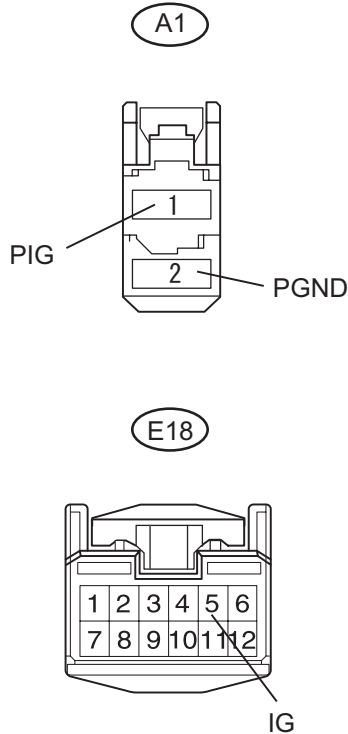
NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO POWER STEERING ECU (CANH, CANL)

OK

2**CHECK WIRE HARNESS (POWER STEERING ECU - BATTERY AND BODY GROUND)**

Wire Harness Side



(a) Disconnect the A1 and E18 power steering ECU connectors.

(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
A1-2 (PGND) - Body ground	Below 1 Ω

(c) Measure the voltage of the wire harness side connectors.

Standard voltage

Tester Connection	Condition	Specified Condition
A1-1 (PIG) - Body ground	Always	10 to 14 V
E18-5 (IG) - Body ground	Ignition switch ON	10 to 14 V

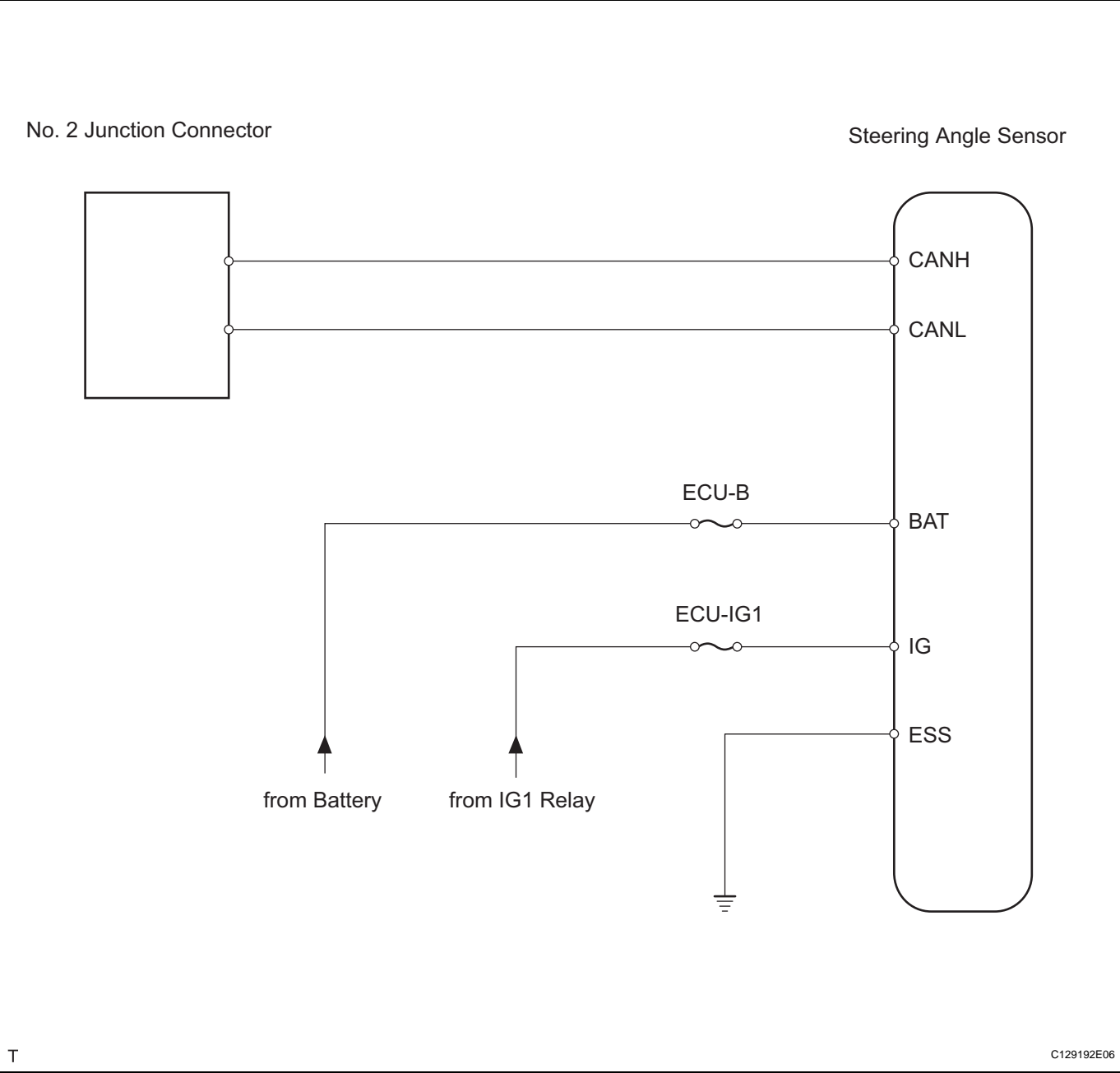
NG**REPAIR OR REPLACE HARNESS AND CONNECTOR****OK****REPLACE POWER STEERING ECU****CA**

Steering Angle Sensor Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
STEERING ANGLE SENSOR COMMUNICATION STOP MODE	<ul style="list-style-type: none">STEERING SENSOR is not displayed on "BUS CHECK" screen of intelligent testerApplies to "STEERING ANGLE SENSOR COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE"	<ul style="list-style-type: none">Power source or inside steering angle sensorSteering angle sensor branch wire and connectorSteering angle sensor

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

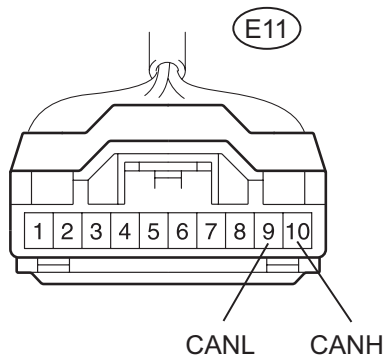
HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR DISCONNECTION (STEERING ANGLE SENSOR BRANCH WIRE)

Wire Harness Side



T

F100892E14

- Disconnect the E11 steering angle sensor connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E11-10 (CANH) - E11-9 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

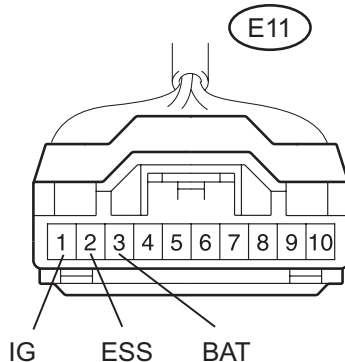
REPAIR OR REPLACE BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

2

CHECK WIRE HARNESS (STEERING ANGLE SENSOR - BATTERY AND BODY GROUND)

Wire Harness Side



T

F100892E15

- Disconnect the E11 steering angle sensor connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
E11-2 (ESS) - Body ground	Below 1 Ω

- Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
E11-3 (BAT) - Body ground	Always	10 to 14 V
E11-1 (IG) - Body ground	Ignition switch ON	10 to 14 V

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

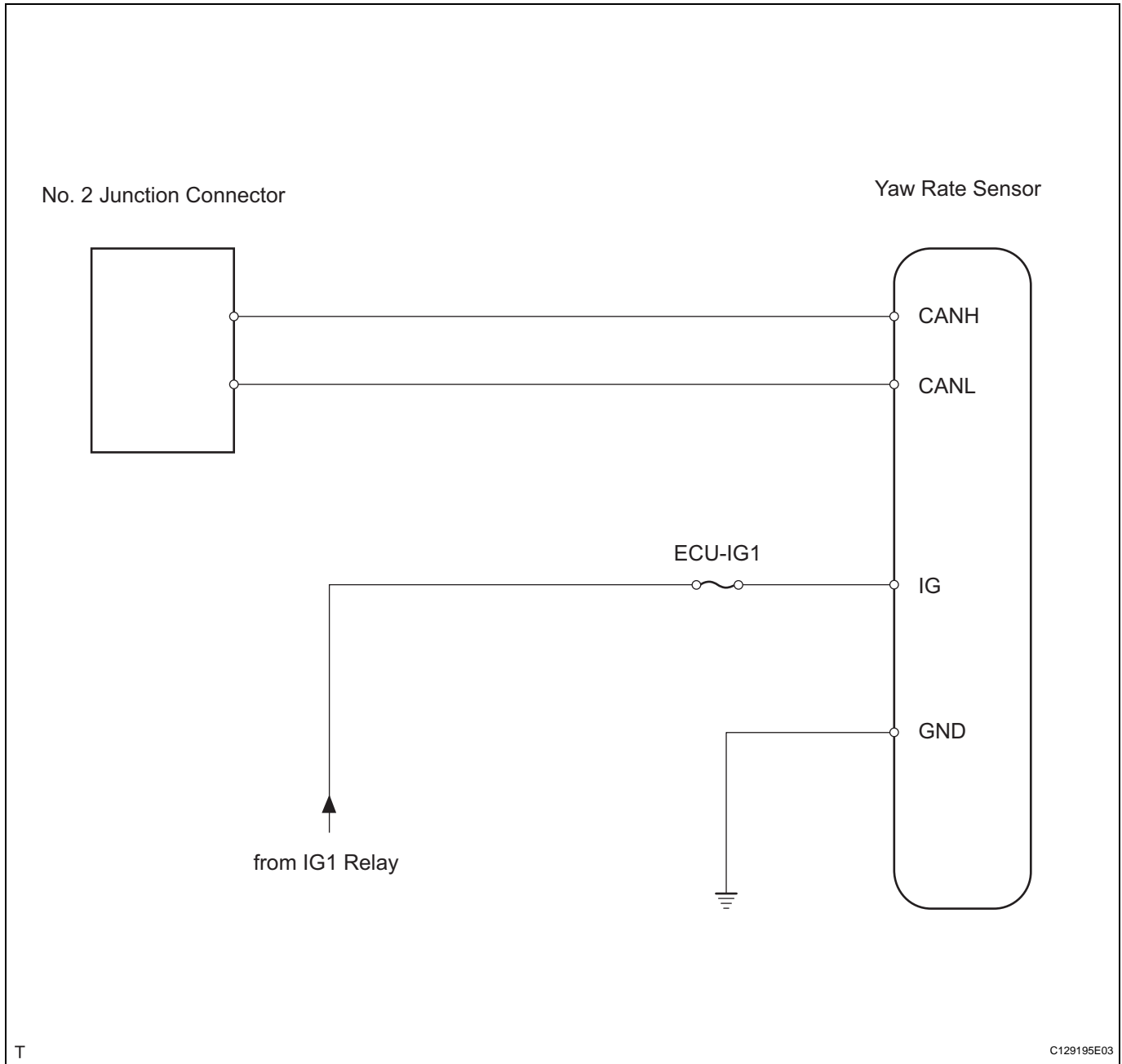
REPLACE STEERING ANGLE SENSOR

Yaw Rate Sensor Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
YAW RATE SENSOR COMMUNICATION STOP MODE	<ul style="list-style-type: none"> • YAW / DECELERAT is not displayed on "BUS CHECK" screen of intelligent tester • Applies to "YAW RATE SENSOR COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE" 	<ul style="list-style-type: none"> • Power source or inside yaw rate sensor • Yaw rate sensor branch wire and connector • Yaw rate sensor

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

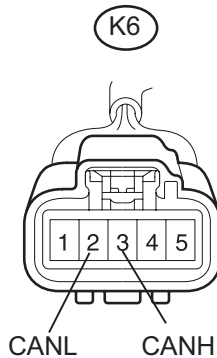
- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1 CHECK CAN BUS LINE FOR DISCONNECTION (YAW RATE SENSOR BRANCH WIRE)

Wire Harness Side



T

F100900E05

- Disconnect the K6 yaw rate sensor connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
K6-3 (CANH) - K6-2 (CANL)	Ignition switch OFF	54 to 69 Ω

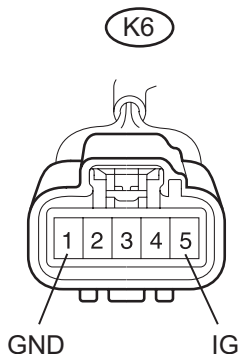
NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

2 CHECK WIRE HARNESS (YAW RATE SENSOR - BATTERY AND BODY GROUND)

Wire Harness Side



T

F100900E04

- Disconnect the K6 yaw rate sensor connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
K6-1 (GND) - Body ground	Below 1 Ω

- Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
K6-5 (IG) - Body ground	Ignition switch ON	10 to 14 V

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE YAW RATE SENSOR

CA

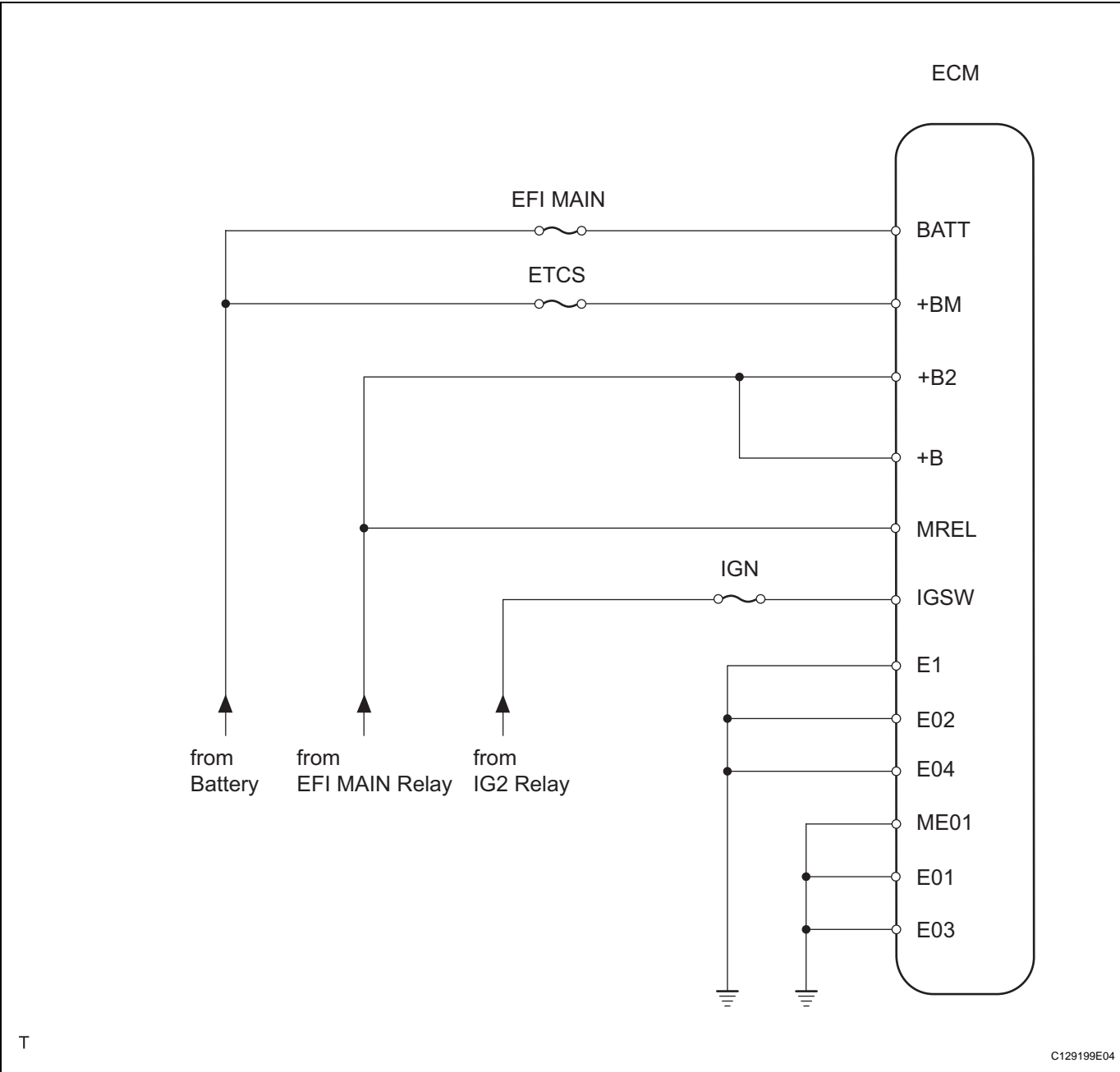
ECM Communication Stop Mode

(2005/11-2006/01)

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM COMMUNICATION STOP MODE	<ul style="list-style-type: none">ENGINE is not displayed on "BUS CHECK" screen of intelligent testerApplies to "ECM COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE"	<ul style="list-style-type: none">Power source or inside ECMECM main wire and connectorECM

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

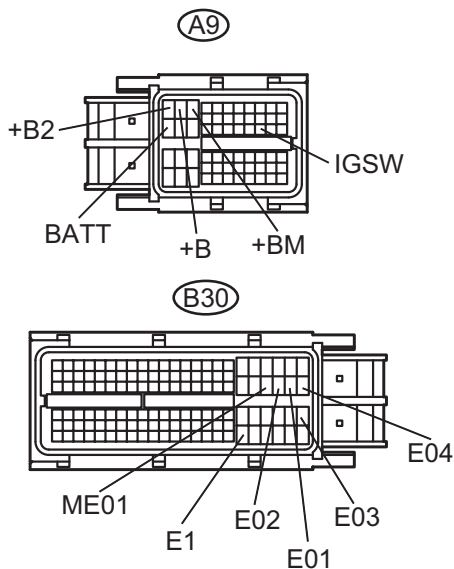
HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK WIRE HARNESS (ECM - BATTERY AND BODY GROUND)

Wire Harness Side



- Disconnect the A9 and B30 ECM connectors.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
B30-104 (E1) - Body ground	Below 1 Ω
B30-45 (E01) - Body ground	Below 1 Ω
B30-44 (E02) - Body ground	Below 1 Ω
B30-86 (E03) - Body ground	Below 1 Ω
B30-46 (E04) - Body ground	Below 1 Ω
B30-43 (ME01) - Body ground	Below 1 Ω

- Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
A9-1 (+B2) - Body ground	When battery's positive (+) voltage is applied to terminal MREL	10 to 14 V
A9-2 (+B) - Body ground	When battery's positive (+) voltage is applied to terminal MREL	10 to 14 V
A9-3 (+BM) - Body ground	Always	10 to 14 V
A9-20 (BATT) - Body ground	Always	10 to 14 V
A9-28 (IGSW) - Body ground	Ignition switch ON	10 to 14 V

NG
REPAIR OR REPLACE HARNESS AND CONNECTOR
OK
REPLACE ECM
CA

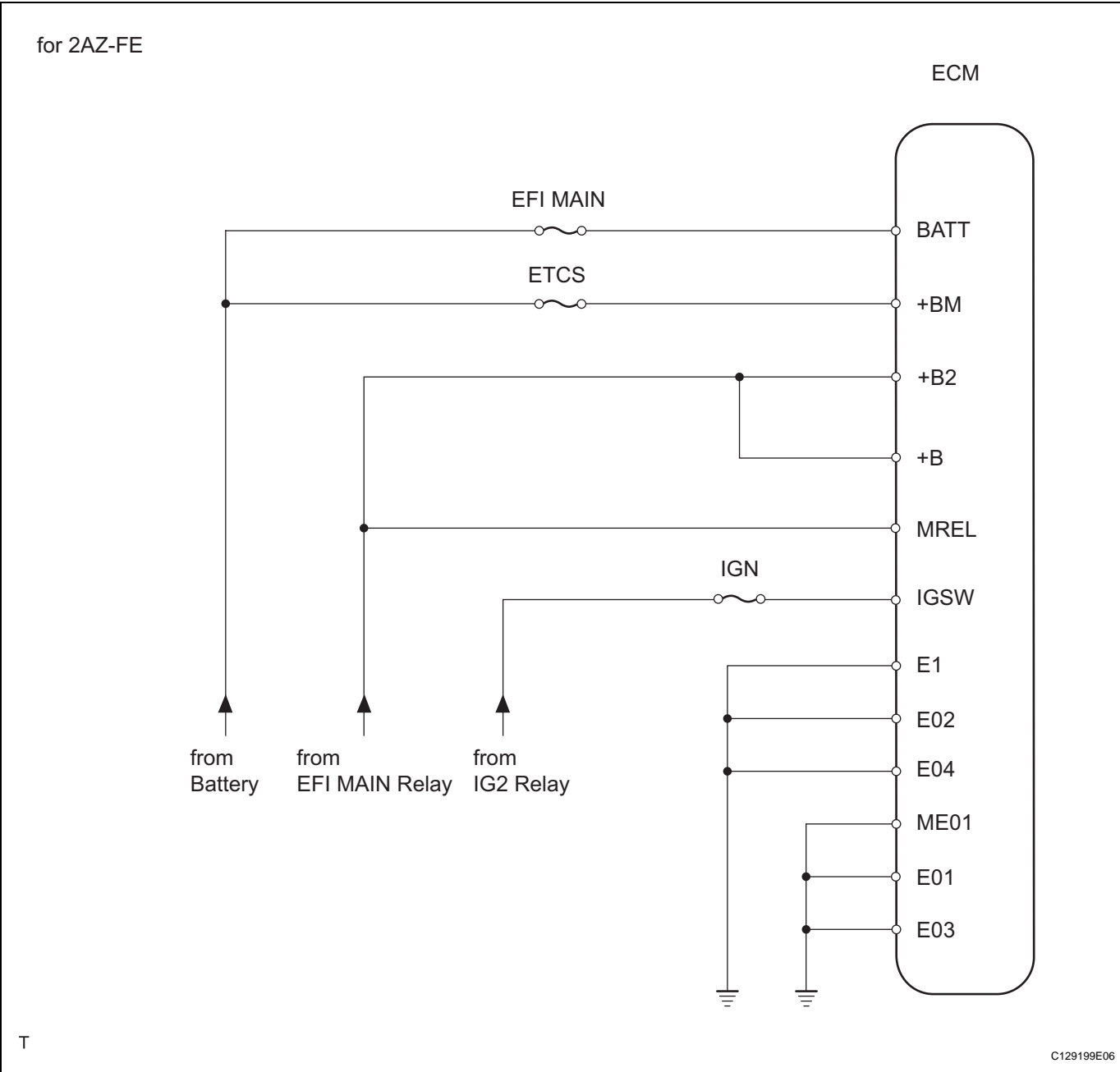
ECM Communication Stop Mode

(2006/01-)

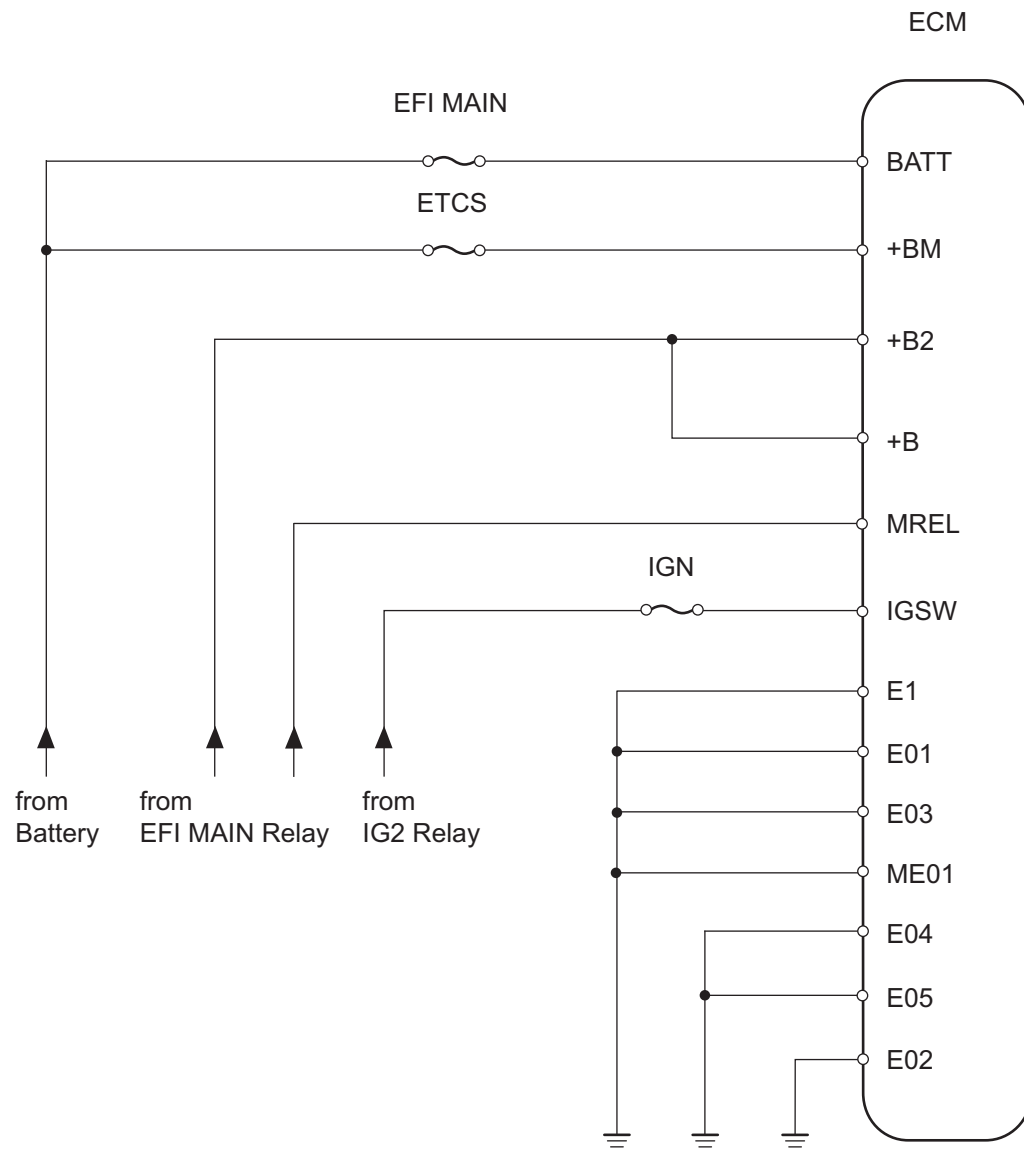
DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM COMMUNICATION STOP MODE	<ul style="list-style-type: none">ENGINE is not displayed on "BUS CHECK" screen of intelligent testerApplies to "ECM COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE"	<ul style="list-style-type: none">Power source or inside ECMECM main wire and connectorECM

WIRING DIAGRAM



for 2GR-FE



C135765E01

INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

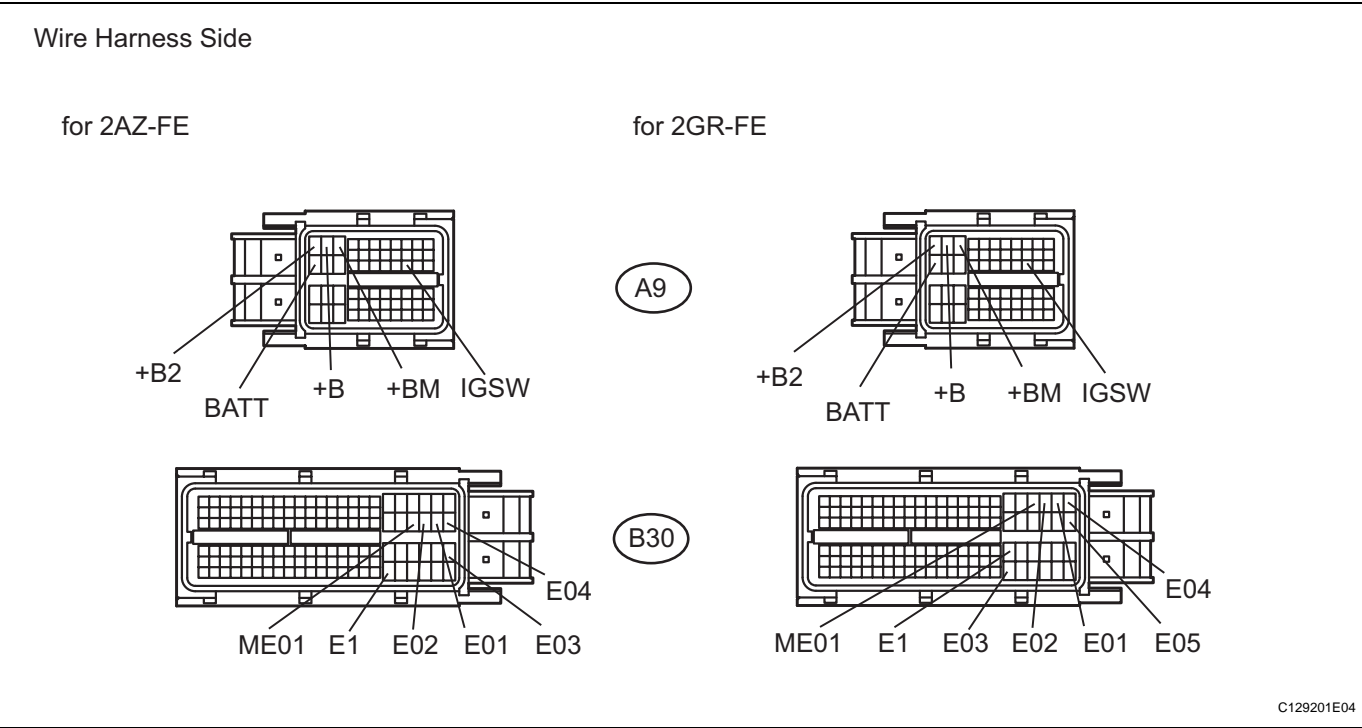
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

CA

1

CHECK WIRE HARNESS (ECM - BATTERY AND BODY GROUND)

(a) Disconnect the A9 and B30 ECM connectors.



(b) Measure the resistance of the wire harness side connector.

Standard resistance:
for 2AZ-FE

Tester Connection	Specified Condition
B30-104 (E1) - Body ground	Below 1 Ω
B30-45 (E01) - Body ground	Below 1 Ω
B30-44 (E02) - Body ground	Below 1 Ω
B30-86 (E03) - Body ground	Below 1 Ω
B30-46 (E04) - Body ground	Below 1 Ω
B30-43 (ME01) - Body ground	Below 1 Ω

for 2GR-FE

Tester Connection	Specified Condition
B30-81 (E1) - Body ground	Below 1 Ω
B30-22 (E01) - Body ground	Below 1 Ω
B30-21 (E02) - Body ground	Below 1 Ω
B30-104 (E03) - Body ground	Below 1 Ω
B30-23 (E04) - Body ground	Below 1 Ω
B30-46 (E05) - Body ground	Below 1 Ω
B30-20 (ME01) - Body ground	Below 1 Ω

(c) Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
A9-1 (+B2) - Body ground	When battery's positive (+) voltage is applied to terminal MREL	10 to 14 V
A9-2 (+B) - Body ground	When battery's positive (+) voltage is applied to terminal MREL	10 to 14 V
A9-3 (+BM) - Body ground	Always	10 to 14 V
A9-20 (BATT) - Body ground	Always	10 to 14 V
A9-28 (IGSW) - Body ground	Ignition switch ON	10 to 14 V

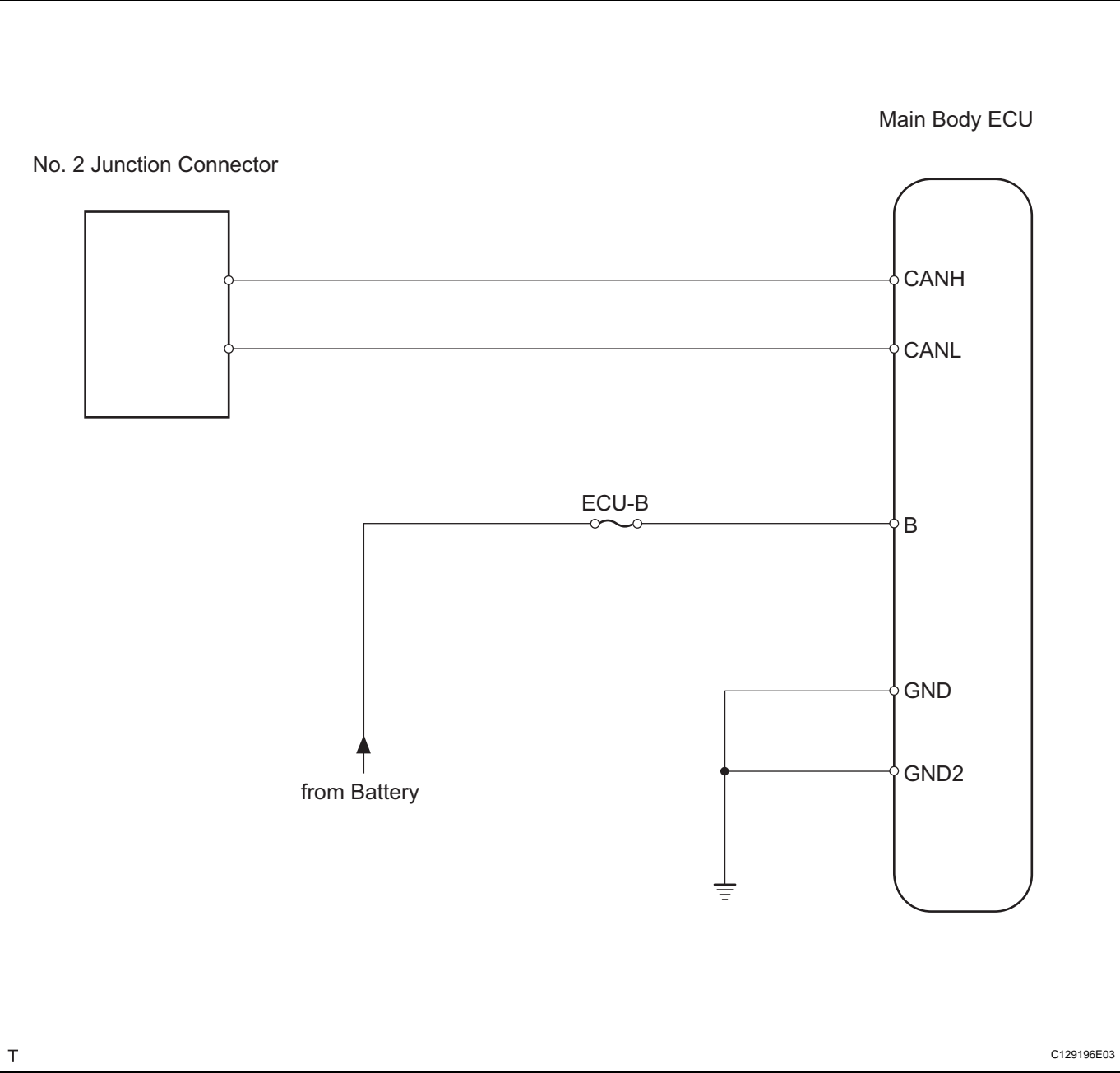
NG**REPAIR OR REPLACE HARNESS AND CONNECTOR****OK****CA****REPLACE ECM**

Main Body ECU Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
MAIN BODY ECU COMMUNICATION STOP MODE	<ul style="list-style-type: none">MAIN BODY is not displayed on "BUS CHECK" screen of intelligent testerApplies to "MAIN BODY ECU COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE"	<ul style="list-style-type: none">Power source or inside main body ECUMain body ECU branch wire and connectorInstrument panel junction block (Main body ECU)

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

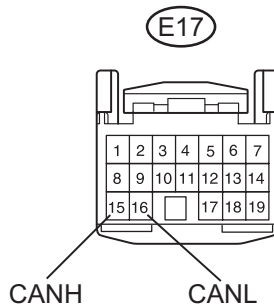
HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR DISCONNECTION (MAIN BODY ECU BRANCH WIRE)

Wire Harness Side



T

C130529E01

- Disconnect the E17 main body ECU connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E17-15 (CANH) - E17-16 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

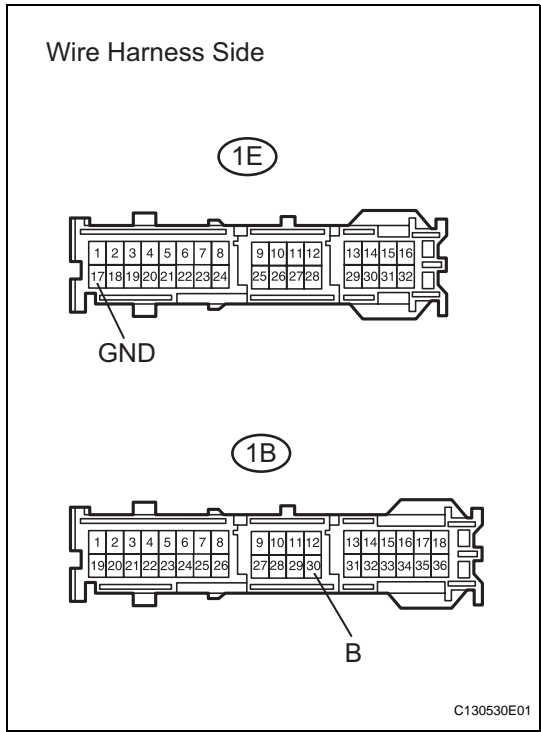
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK

CA

2

CHECK WIRE HARNESS (MAIN BODY ECU - BATTERY AND BODY GROUND)



- (a) Disconnect the 1E and 1B junction block connectors.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
1E-17 (GND) - Body ground	Below 1 Ω

- (c) Measure the voltage of the wire harness side connector.
Standard voltage

Tester Connection	Specified Condition
1B-30 (B) - Body ground	10 to 14 V

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

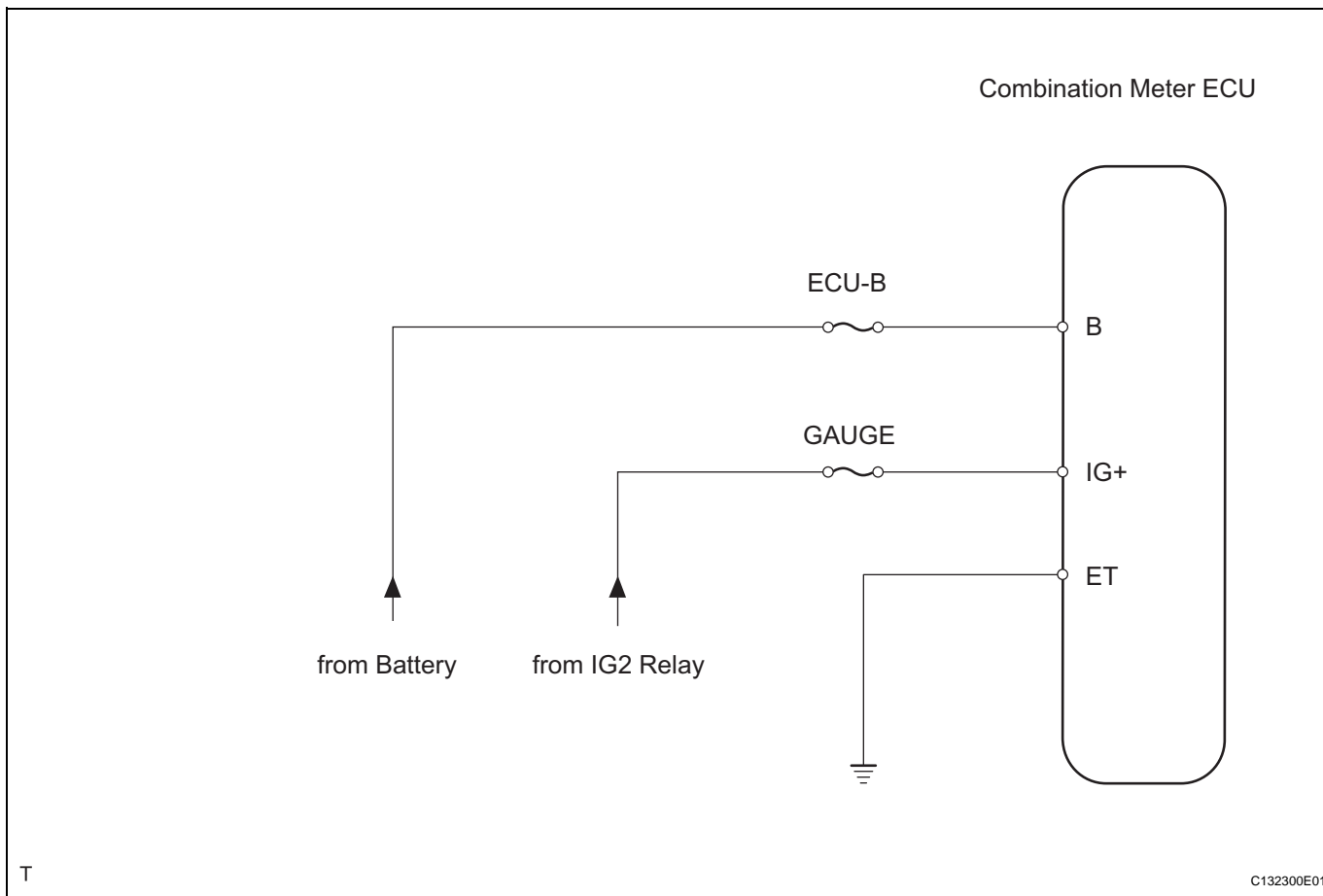
REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

Combination Meter ECU Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
COMBINATION METER ECU COMMUNICATION STOP MODE	<ul style="list-style-type: none"> METER is not displayed on "BUS CHECK" screen of intelligent tester Applies to "COMBINATION METER ECU COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE" 	<ul style="list-style-type: none"> Power source or inside combination meter ECU Combination meter ECU branch wire and connector Combination meter ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

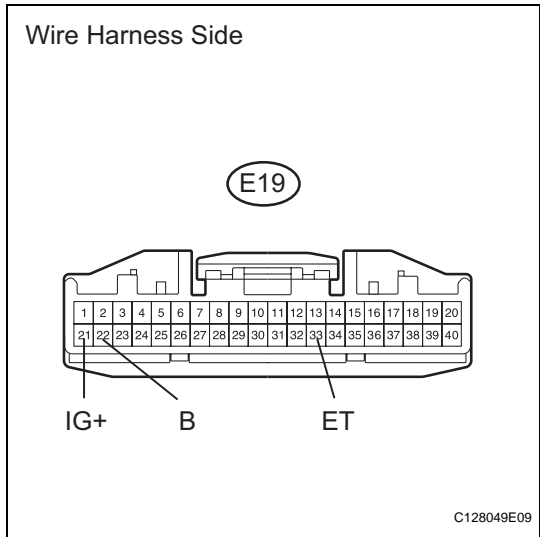
- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK WIRE HARNESS (COMBINATION METER ECU - BATTERY AND BODY GROUND)



- (a) Disconnect the E19 combination meter ECU connector.
- (b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
E19-33 (ET) - Body ground	Below 1 Ω

- (c) Measure the voltage of the wire harness side connector.
- Standard voltage

Tester Connection	Condition	Specified Condition
E19-22 (B) - Body ground	Always	10 to 14 V
E19-21 (IG+) - Body ground	Ignition switch ON	10 to 14 V

CA

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

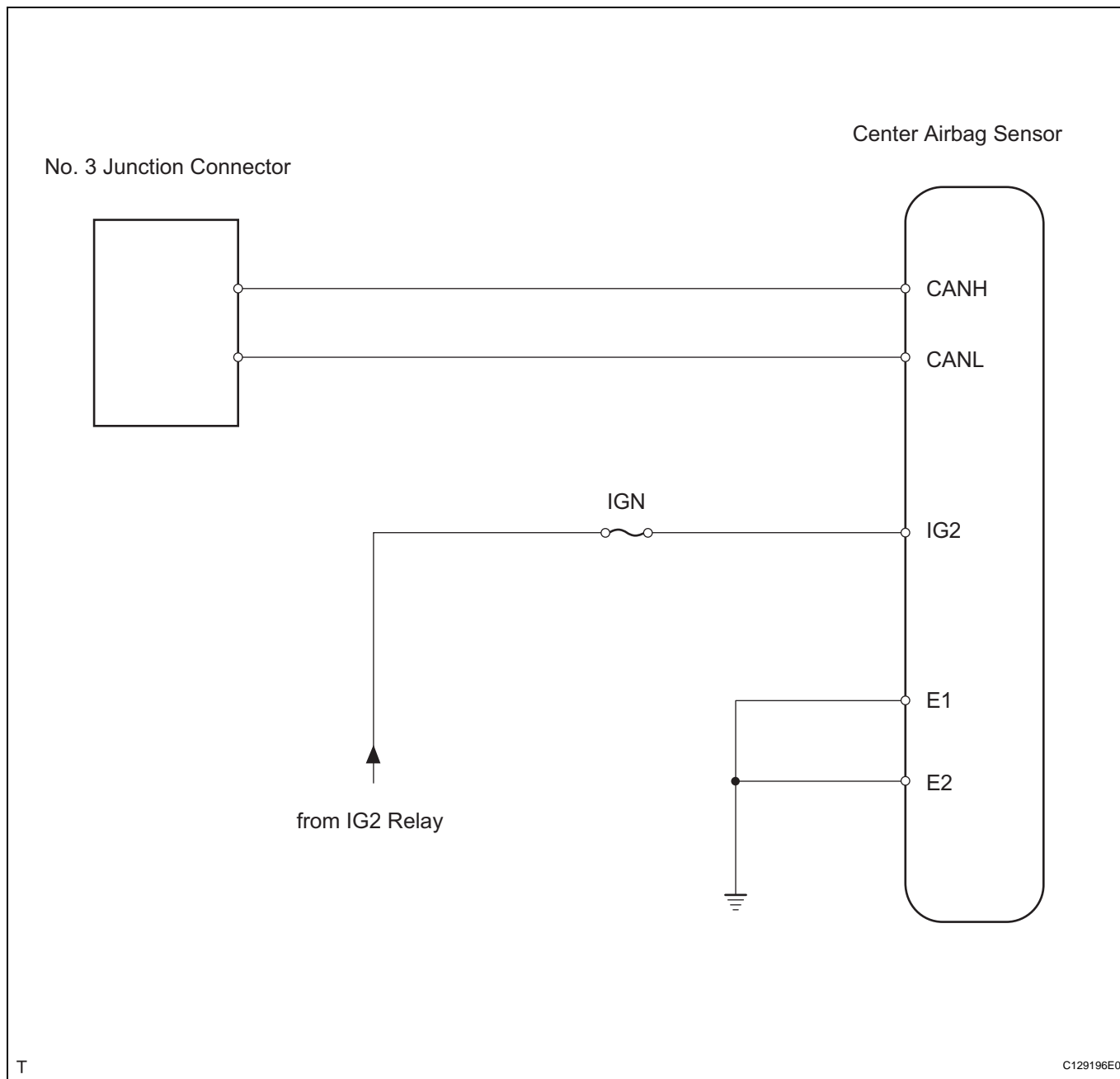
REPLACE COMBINATION METER ECU

Center Airbag Sensor Communication Stop Mode

DESCRIPTION

Detection Item	Symptom	Trouble Area
CENTER AIRBAG SENSOR COMMUNICATION STOP MODE	<ul style="list-style-type: none"> SRS AIRBAG is not displayed on "BUS CHECK" screen of intelligent tester. Applies to "CENTER AIRBAG SENSOR COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE" 	<ul style="list-style-type: none"> Power source or inside center airbag sensor assembly Center airbag sensor assembly branch wire and connector Center airbag sensor assembly

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

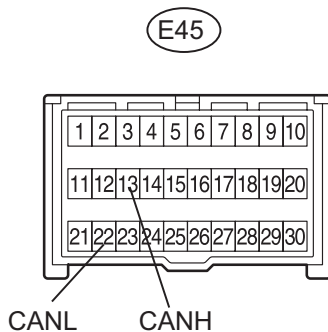
HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR DISCONNECTION (CENTER AIRBAG SENSOR ASSEMBLY BRANCH WIRE)

Wire Harness Side



T

B117467E07

- Disconnect the E45 center airbag sensor connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E45-13 (CANH) - E45-22 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

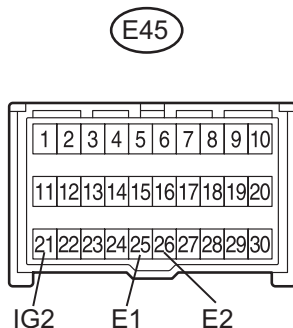
REPAIR OR REPLACE CENTER AIRBAG SENSOR ASSEMBLY BRANCH WIRE AND CONNECTOR (CANH, CANL)

OK

2

CHECK WIRE HARNESS (CENTER AIRBAG SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

Wire Harness Side



T

B117467E08

- Disconnect the E45 center airbag sensor connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
E45-25 (E1) - Body ground	Below 1 Ω
E45-26 (E2) - Body ground	Below 1 Ω

- Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
E45-21 (IG2) - Body ground	Ignition switch ON	10 to 14 V

NG**REPAIR OR REPLACE HARNESS AND
CONNECTOR****OK****REPLACE CENTER AIRBAG SENSOR ASSEMBLY****CA**

4WD Control ECU Communication Stop Mode

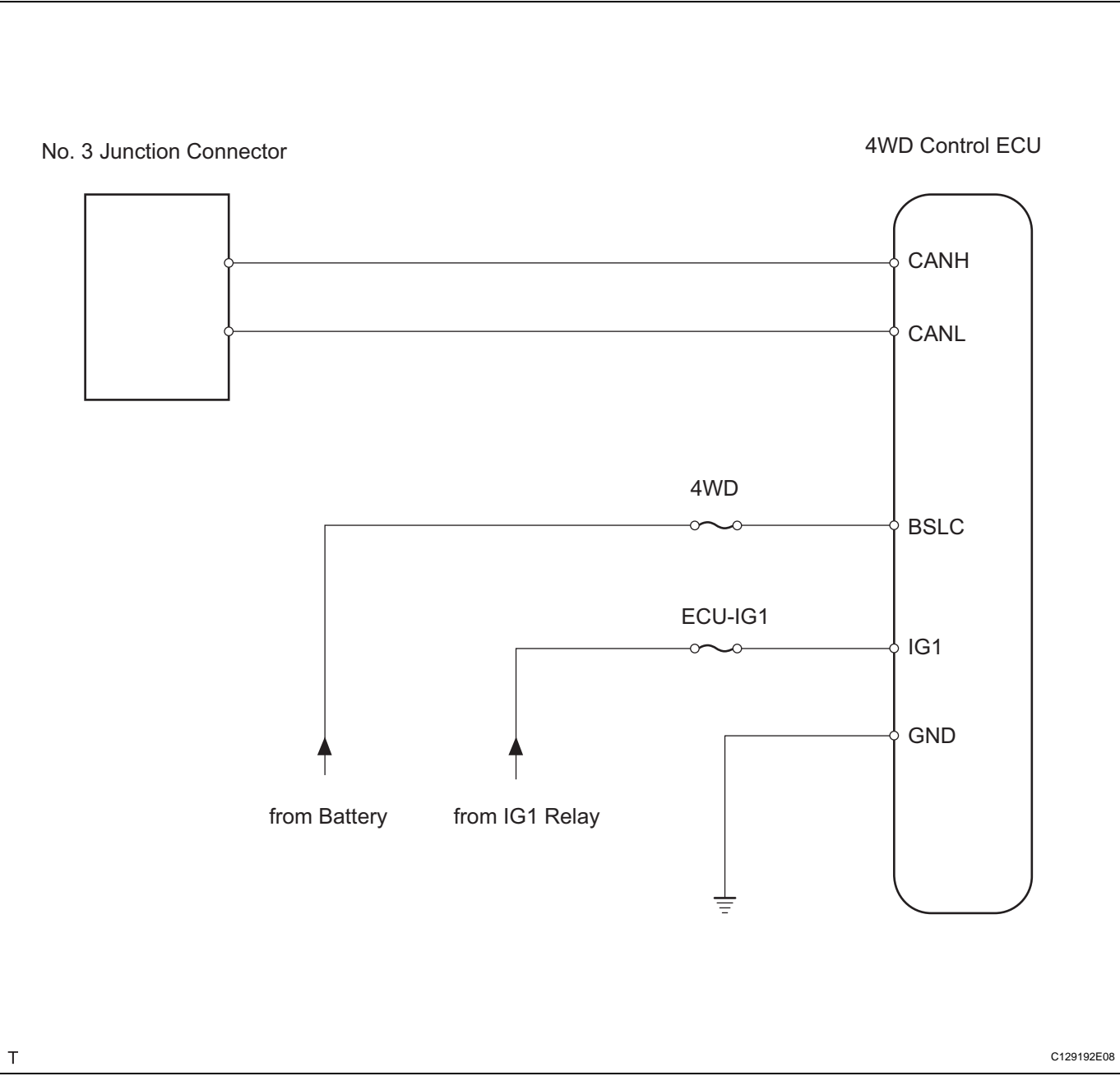
DESCRIPTION

Detection Item	Symptom	Trouble Area
4WD CONTROL ECU COMMUNICATION STOP MODE	<ul style="list-style-type: none">4WD is not displayed on "BUS CHECK" screen of intelligent testerApplies to "4WD CONTROL ECU COMMUNICATION STOP MODE" in "DTC COMBINATION TABLE"	<ul style="list-style-type: none">Power source or inside 4WD control ECU4WD control ECU branch wire and connector4WD control ECU

HINT:
For vehicle with 4WD only.

WIRING DIAGRAM

CA



INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

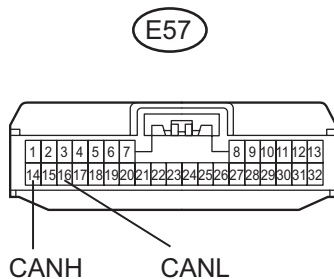
HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR DISCONNECTION (4WD CONTROL ECU BRANCH WIRE)

Wire Harness Side



C128520E03

- Disconnect the E57 4WD control ECU connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E57-14 (CANH) - E57-16 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

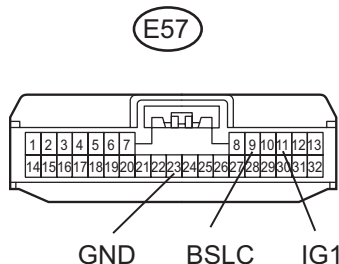
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CANH, CANL)

OK

2

CHECK WIRE HARNESS (4WD CONTROL ECU - BATTERY AND BODY GROUND)

Wire Harness Side



C128520E04

- Disconnect the E57 4WD control ECU connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
E57-23 (GND) - Body ground	Below 1 Ω

- Measure the voltage of the wire harness side connector.

Standard voltage

Tester Connection	Condition	Specified Condition
E57-9 (BSLC) - Body ground	Always	10 to 14 V
E57-11 (IG1) - Body ground	Ignition switch ON	10 to 14 V

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

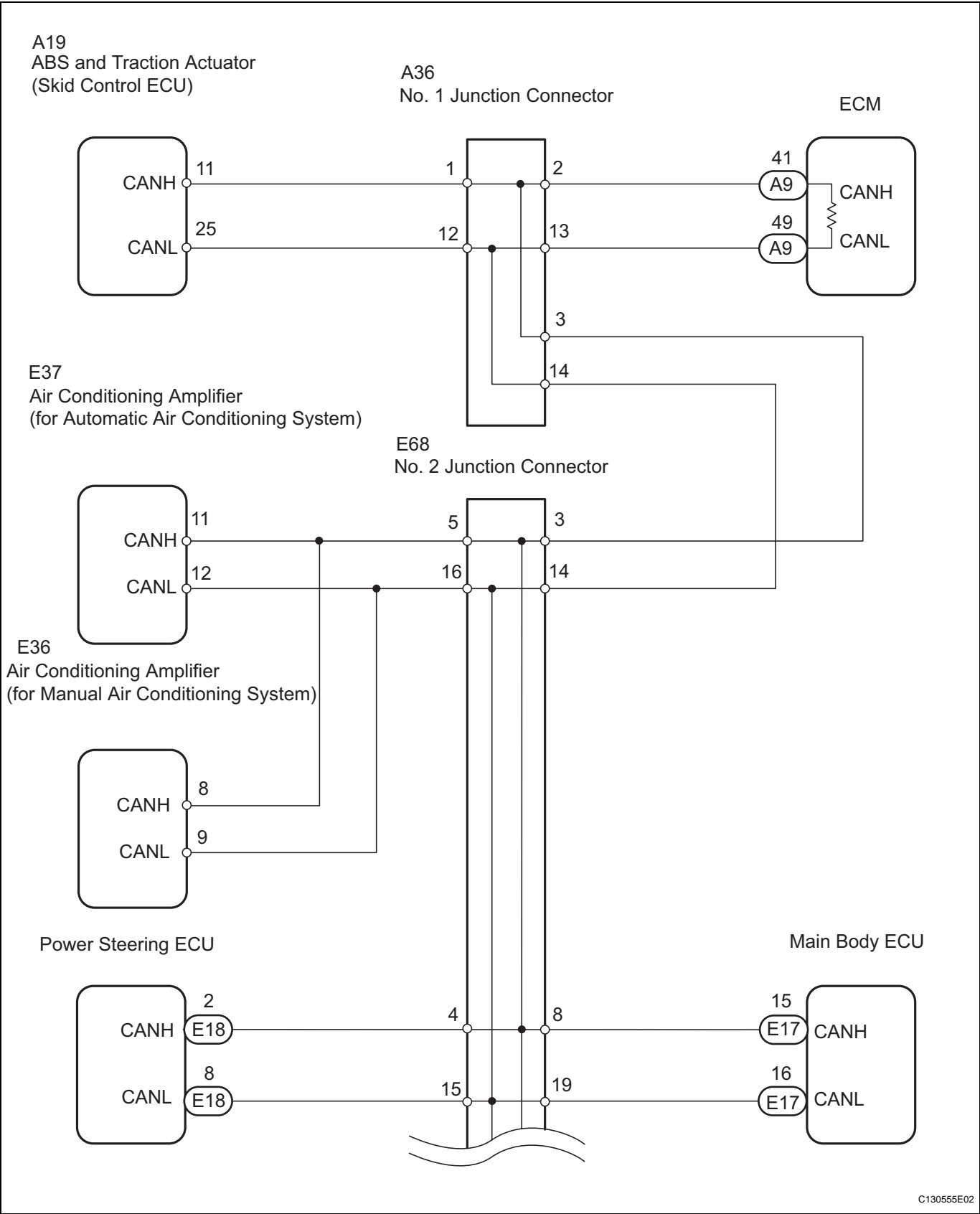
REPLACE 4WD CONTROL ECU

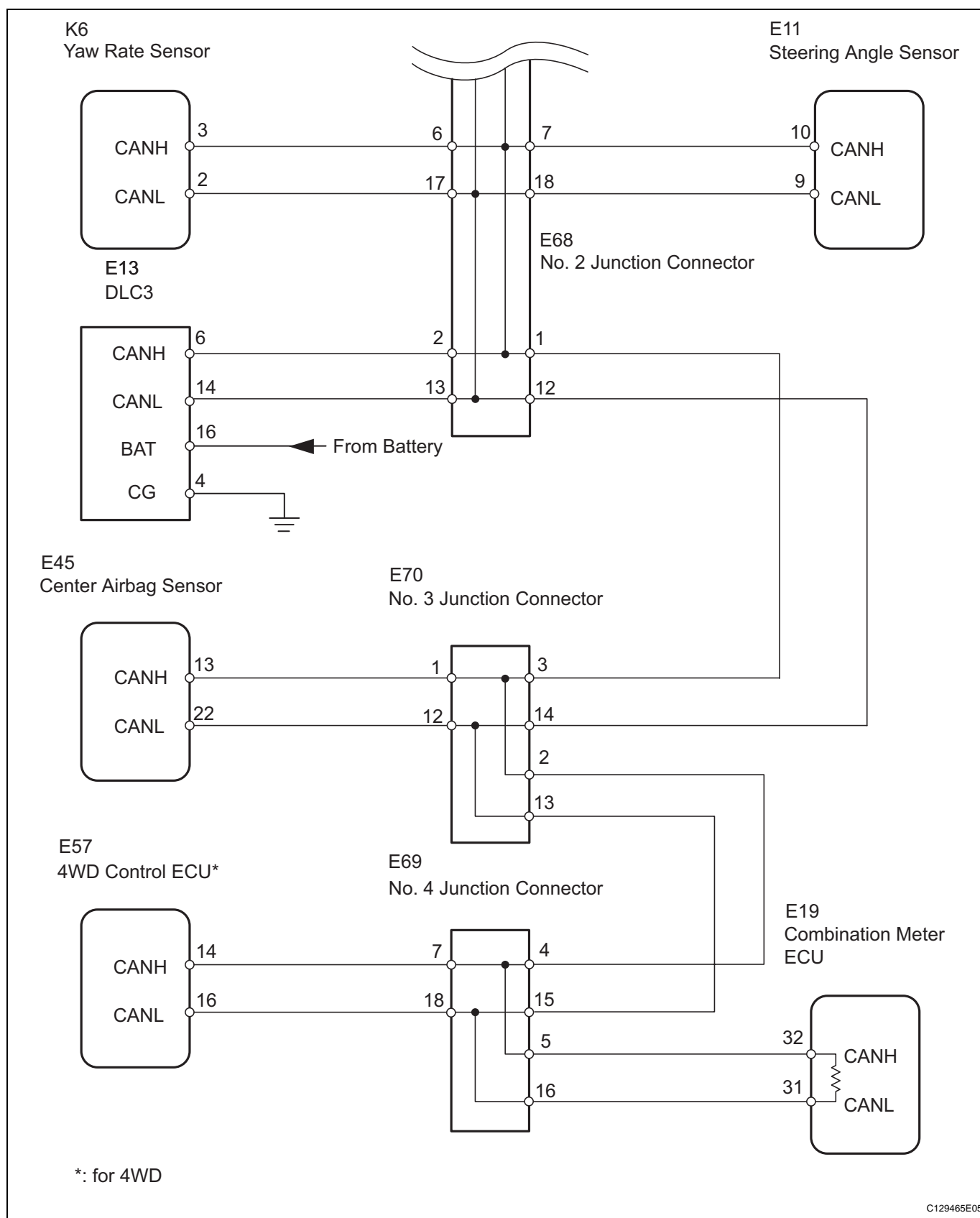
CAN Bus Line

DESCRIPTION

When any DTC for the CAN communication system is output, first measure the resistance between the terminals of the DLC3 to specify the trouble area, and check that there is not a short in the CAN main wire, between the main wire, to +B, or to GND.

WIRING DIAGRAM





C129465E05

INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.

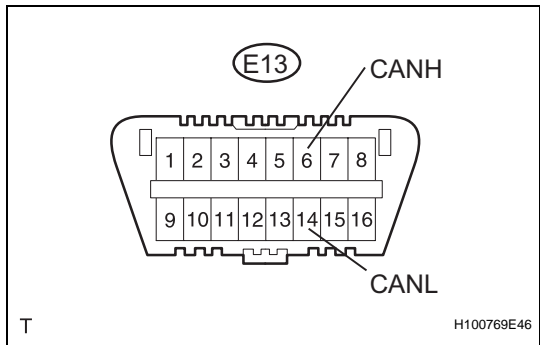
CA

- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS WIRE (MAIN WIRE FOR OPEN, CAN BUS LINES FOR SHORT CIRCUIT)



(a) Measure the resistance of the DLC3.
Standard resistance

Tester Connection	Condition	Specified Condition	Proceed to
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω	OK
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	69 Ω or more	NG-A
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 Ω or less	NG-B

NG-A

CHECK CAN MAIN WIRE FOR OPEN

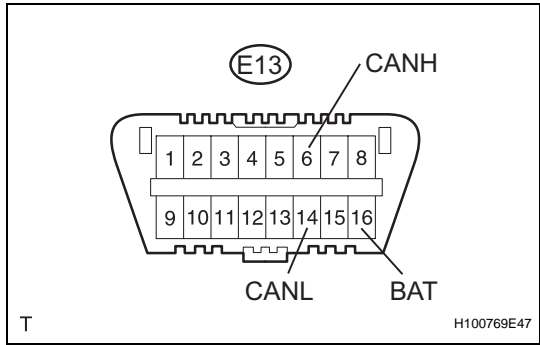
NG-B

CHECK CAN BUS LINES FOR SHORT CIRCUIT

OK

2

CHECK CAN BUS LINE FOR SHORT TO +B



(a) Measure the resistance of the DLC3.
Standard resistance

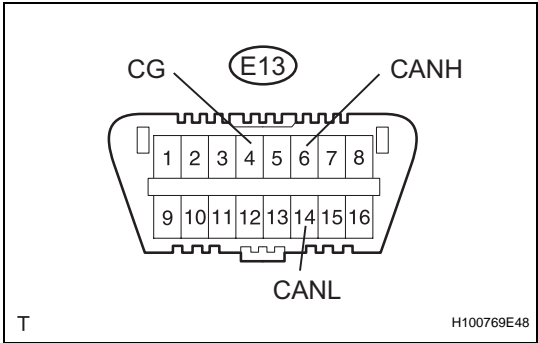
Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

CHECK CAN BUS LINE FOR SHORT TO +B

OK

3 CHECK CAN BUS LINE FOR SHORT TO GND



(a) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

CHECK CAN BUS LINE FOR SHORT TO GND

OK

CHECK HOW TO PROCEED WITH TROUBLESHOOTING

CA

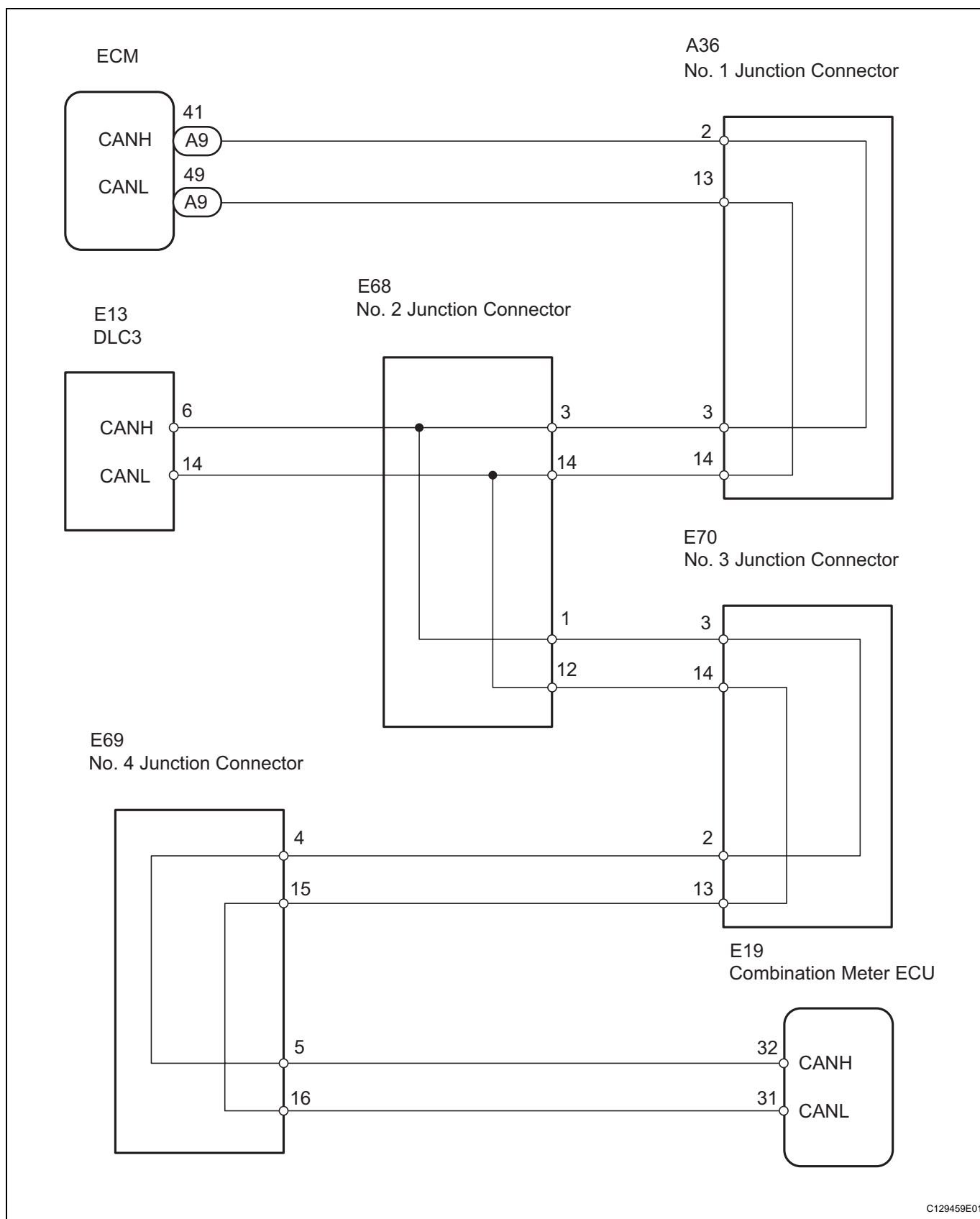
Open in CAN Main Wire

DESCRIPTION

There may be an open circuit in the CAN main wire and / or the DLC3 branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or more.

Symptom	Trouble Area
Resistance between terminals 6 (CANH) and 14 (CANL) of DLC3 is 69 Ω or more.	<ul style="list-style-type: none">• CAN main wire and connector• No. 1 junction connector• No. 2 junction connector• No. 3 junction connector• No. 4 junction connector• ECM• Combination meter ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

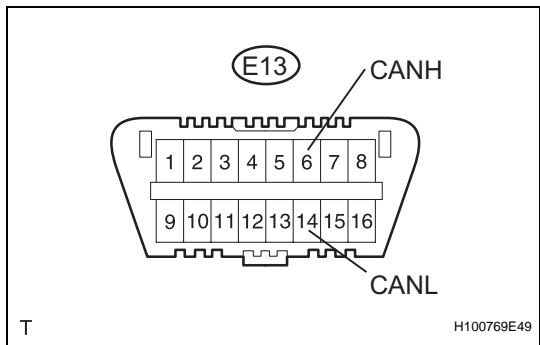
- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK DLC3



(a) Measure the resistance of the DLC3.
Standard resistance

Tester Connection	Condition	Specified Condition	Proceed to
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω	A
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	132 Ω or more	B

NOTICE:
When the measured value is 132 Ω or more and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "HOW TO PROCEED WITH TROUBLESHOOTING" (see page CA-8) after repairing the trouble area.

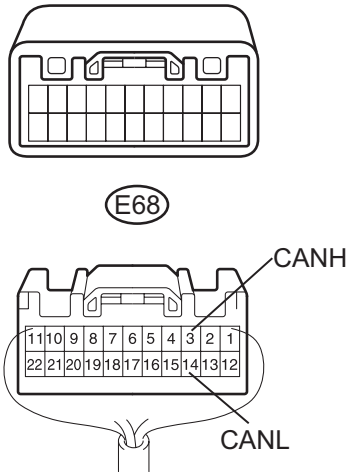
A

B

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

2**CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 2 JUNCTION CONNECTOR - ECM)**

Wire Harness Side



T

C127797E22

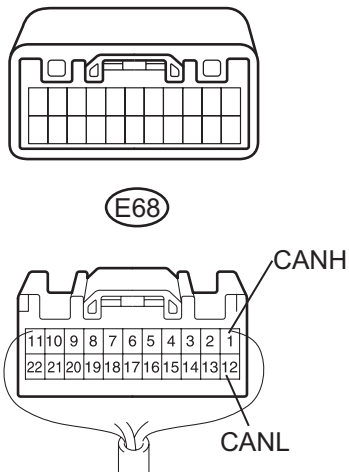
- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-3 (CANH) - E68-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG**Go to step 4****OK****3****CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 2 JUNCTION CONNECTOR - COMBINATION METER ECU)**

Wire Harness Side



T

C127797E23

- (a) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-1 (CANH) - E68-12 (CANL)	Ignition switch OFF	108 to 132 Ω

NG**Go to step 9****CA**

OK

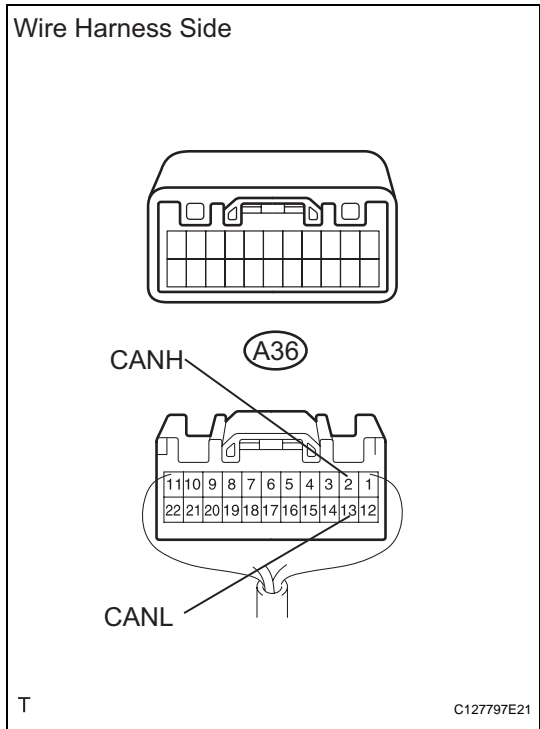
REPLACE NO. 2 JUNCTION CONNECTOR

4CONNECT CONNECTOR

(a) Reconnect the E68 No. 2 junction connector.

NEXT

5CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 1 JUNCTION CONNECTOR - ECM)



- (a) Disconnect the A36 No. 1 junction connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-2 (CANH) - A36-13 (CANL)	Ignition switch OFF	108 to 132 Ω

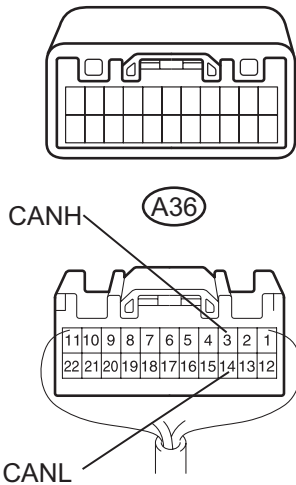
NG

Go to step 7

OK

6**CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

Wire Harness Side



T

C127797E12

- (a) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-3 (CANH) - A36-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

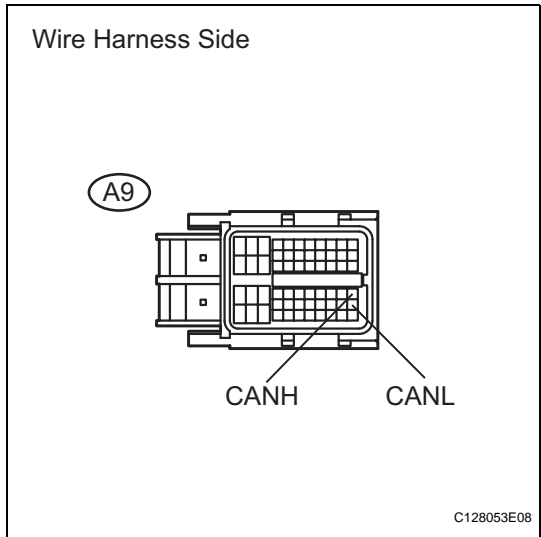
CA**OK****REPLACE NO. 1 JUNCTION CONNECTOR****7****CONNECT CONNECTOR**

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

8

CHECK CAN MAIN WIRE FOR DISCONNECTION (ECM - NO. 1 JUNCTION CONNECTOR)



- (a) Disconnect the A9 ECM connector.
- (b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
A9-41 (CANH) - A9-49 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

OK

REPLACE ECM

9

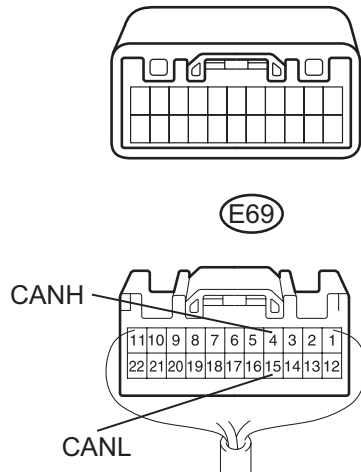
CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

10 CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 4 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

Wire Harness Side



T

C127797E26

- (a) Disconnect the E69 No. 4 junction connector.
- (b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E69-4 (CANH) - E69-15 (CANL)	Ignition switch OFF	108 to 132 Ω

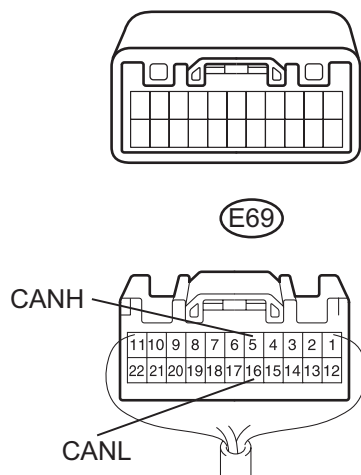
NG

Go to step 14

OK

11 CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 4 JUNCTION CONNECTOR - COMBINATION METER)

Wire Harness Side



T

C127797E27

- (a) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E69-5 (CANH) - E69-16 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

Go to step 12

CA

OK

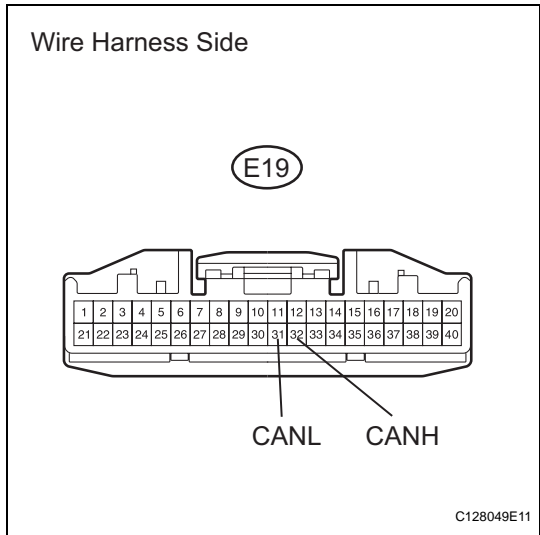
REPLACE NO. 4 JUNCTION CONNECTOR

12CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT

13CHECK CAN MAIN BUS LINE FOR DISCONNECTION (COMBINATION METER ECU - NO. 4 JUNCTION CONNECTOR)



- (a) Disconnect the E19 combination meter ECU connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E19-32 (CANH) - E19-31 (CANL)	Ignition switch OFF	108 to 132 Ω

NGREPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ECU (COMBINATION METER ECU - NO. 4 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (COMBINATION METER ECU)

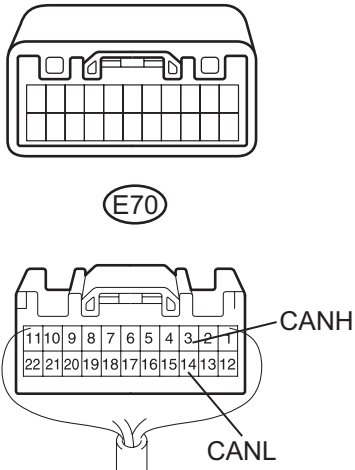
14CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT

15 CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

Wire Harness Side



T

C127797E24

- Disconnect the E70 No. 3 junction connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E70-3 (CANH) - E70-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

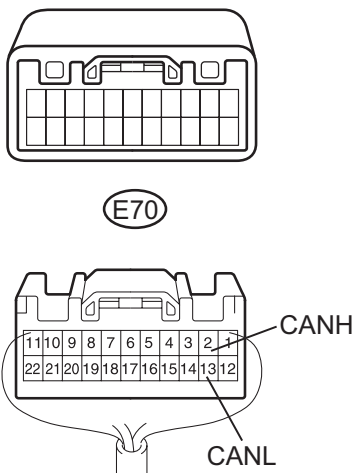
REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

CA

OK

16 CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

Wire Harness Side



T

C127797E25

- Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E70-2 (CANH) - E70-13 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

OK

REPLACE NO. 3 JUNCTION CONNECTOR

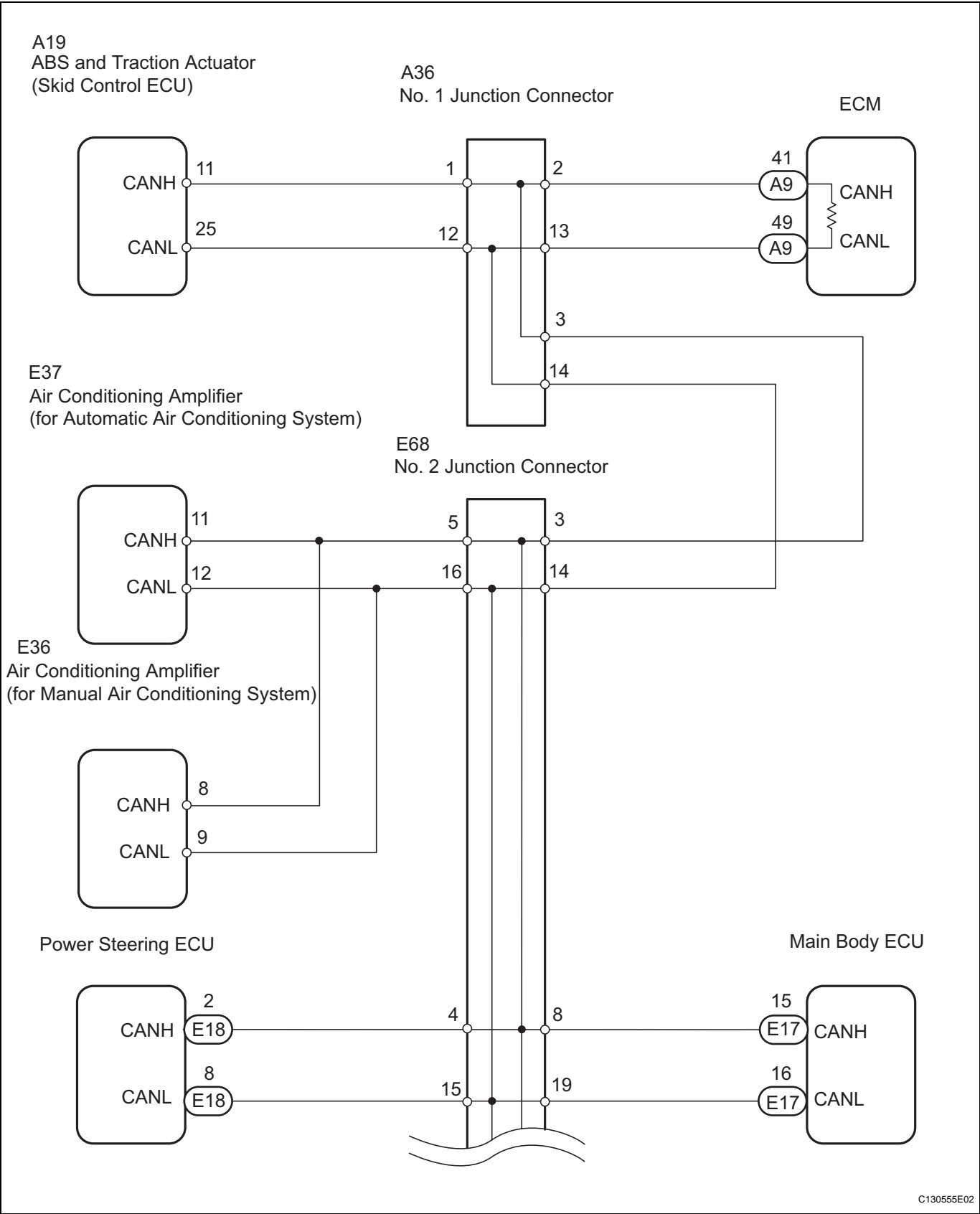
Short in CAN Bus Lines

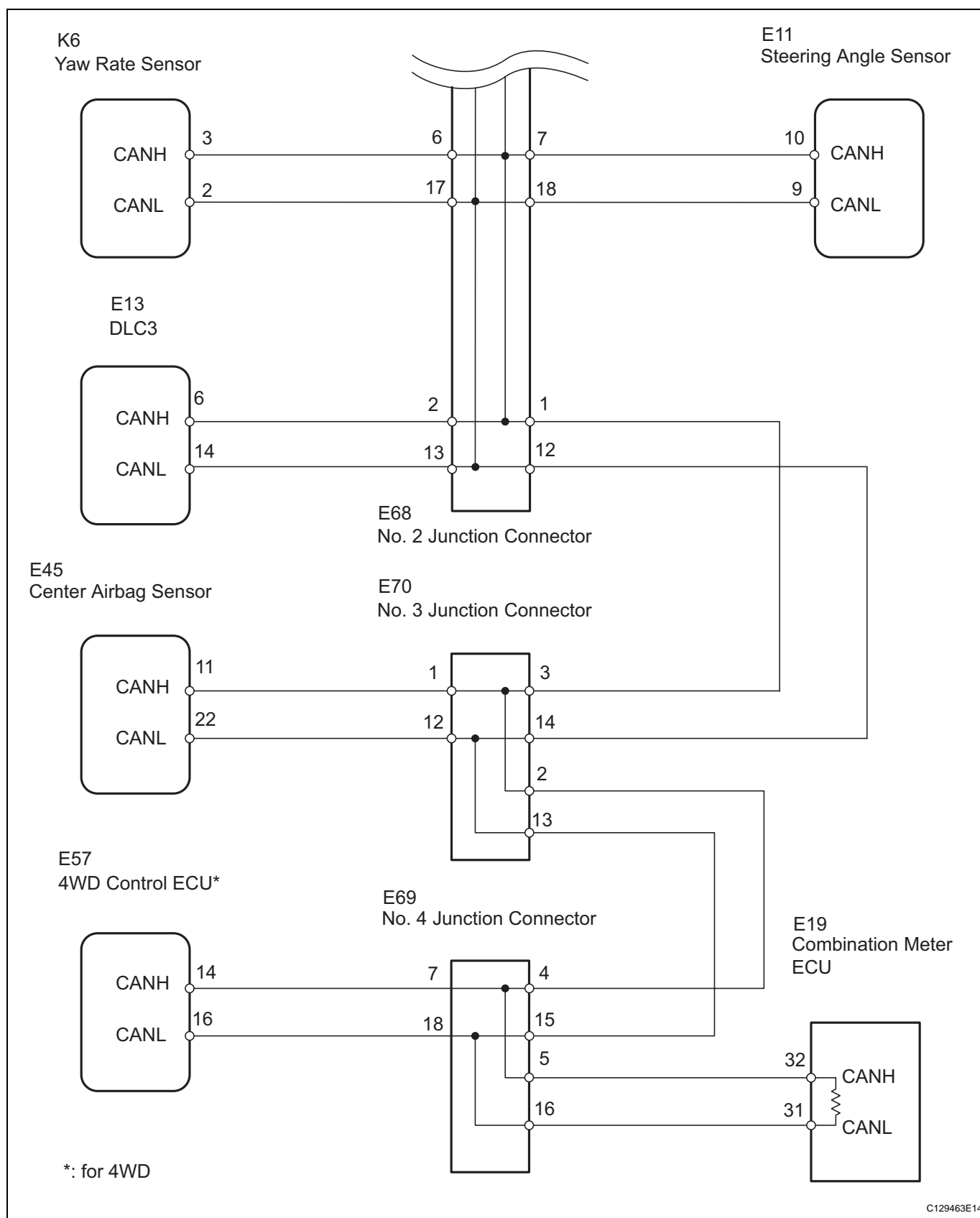
DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω .

Symptom	Trouble Area
Resistance between terminals 6 (CANH) and 14 (CANL) of DLC3 is below 54 Ω .	<ul style="list-style-type: none">• Short between CAN bus lines• ABS and traction actuator (skid control ECU)• Power steering ECU• Steering angle sensor• Yaw rate sensor• ECM• Center airbag sensor• Air conditioning amplifier• Combination meter ECU• Instrument panel junction block (Main body ECU)• 4WD control ECU• No. 1 junction connector• No. 2 junction connector• No. 3 junction connector• No. 4 junction connector

WIRING DIAGRAM





INSPECTION PROCEDURE

NOTICE:

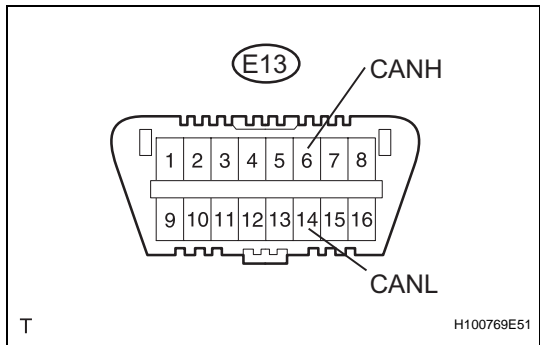
- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.

- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINES FOR SHORT CIRCUIT (DLC3 BRANCH WIRE)



- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE DLC3 BRANCH WIRE AND CONNECTOR (CANH, CANL)

OK

2

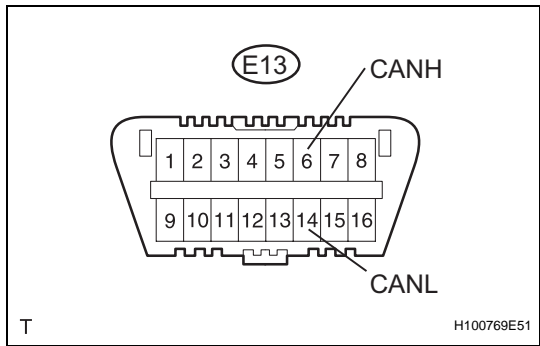
CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

3

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 1 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the A36 No. 1 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω

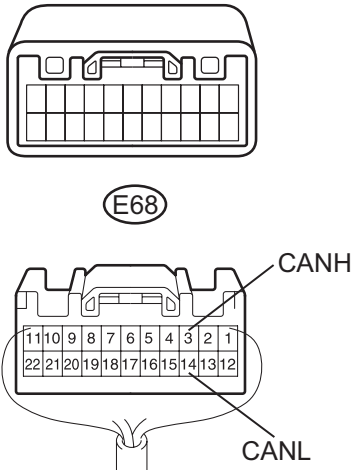
OK

Go to step 14

NG

4**CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

Wire Harness Side



T

C127797E28

- Disconnect the E68 No. 2 junction connector.
- Measure the resistance of the wire harness side connector.

Standard resistance

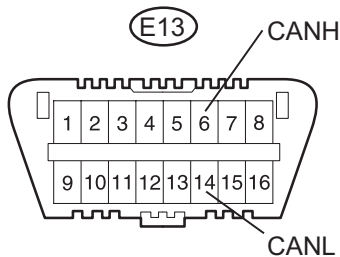
Tester Connection	Condition	Specified Condition
E68-3 (CANH) - E68-14 (CANL)	Ignition switch OFF	1 M Ω or more

NG

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

CA**OK****5****CONNECT CONNECTOR**

- Reconnect the A36 No. 1 junction connector.
- Reconnect the E68 No. 2 junction connector.

NEXT**6****CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 3 JUNCTION CONNECTOR, NO. 4 JUNCTION CONNECTOR SIDE)**

T

H100769E51

- Disconnect the E70 No. 3 junction connector.
- Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG**Go to step 20****OK**

7

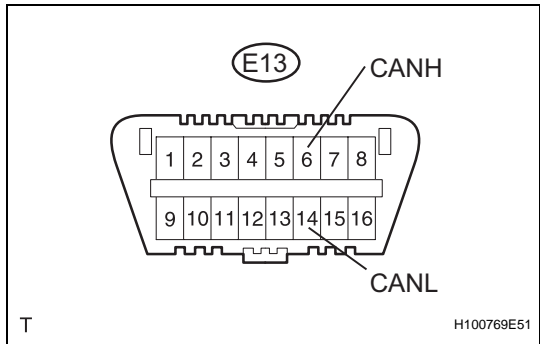
CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

8

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E69 No. 4 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω

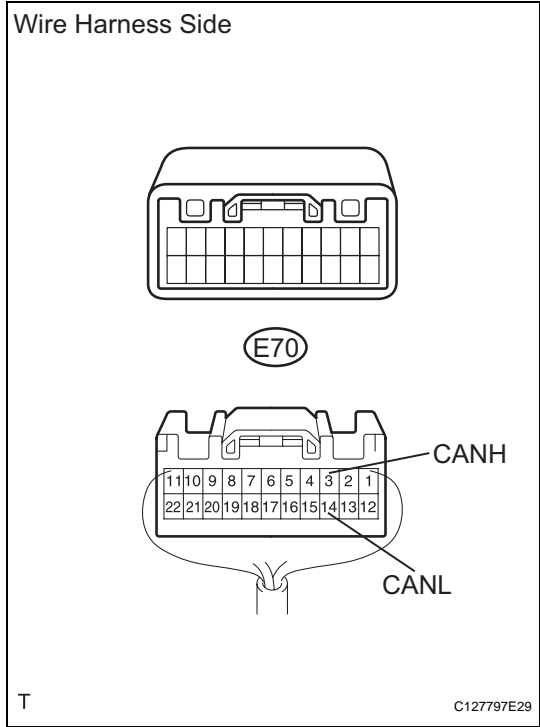
OK

Go to step 36

NG

9

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)



- (a) Disconnect the E70 No. 3 junction connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E70-3 (CANH) - E70-14 (CANL)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

OK

10

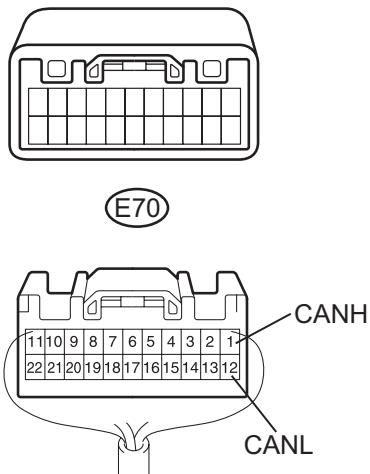
CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT

11 CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 3 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)

Wire Harness Side



T

C127797E17

- (a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E70-1 (CANH) - E70-12 (CANL)	Ignition switch OFF	Below 1 Ω	A
E70-1 (CANH) - E70-12 (CANL)	Ignition switch OFF	Other	B

B

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

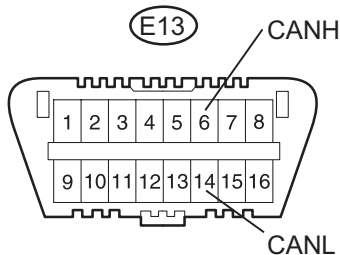
CA

A

12 CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

13 CHECK CAN BUS LINES FOR SHORT CIRCUIT (CENTER AIRBAG SENSOR ASSEMBLY)

T

H100769E51

- (a) Disconnect the E45 center airbag sensor connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

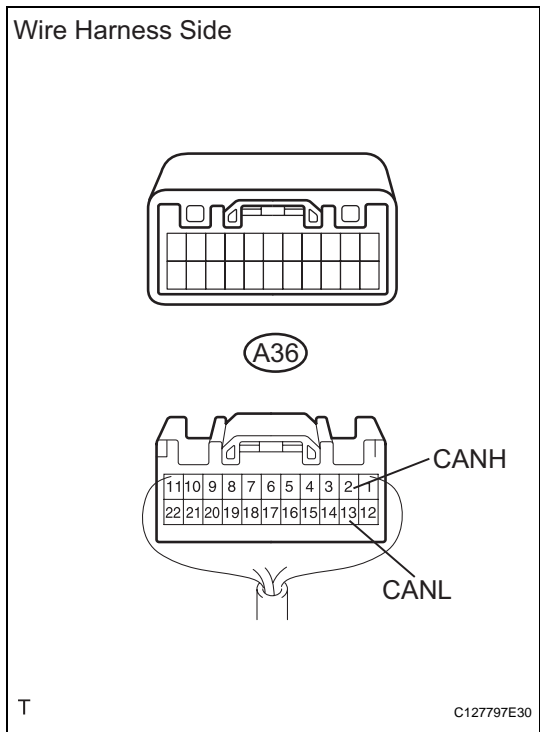
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY

14

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 1 JUNCTION CONNECTOR - ECM)



(a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
A36-2 (CANH) - A36-13 (CANL)	Ignition switch OFF	Below 1 Ω	A
A36-2 (CANH) - A36-13 (CANL)	Ignition switch OFF	Other	B

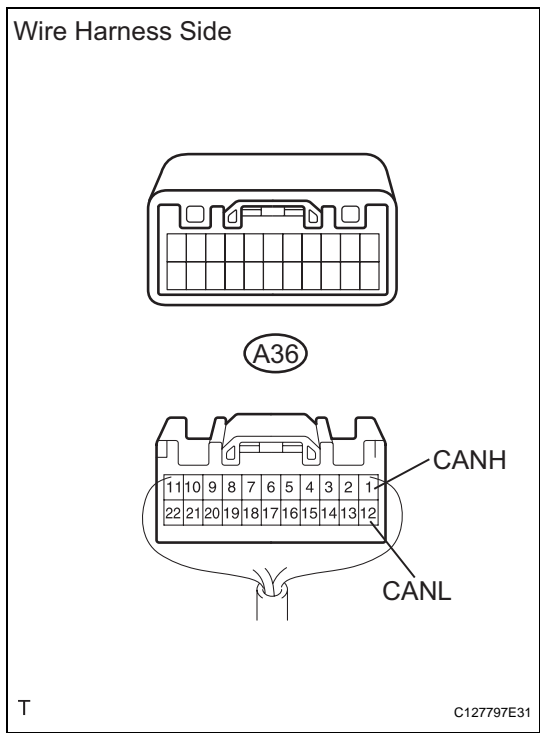
A

Go to step 16

B

15

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 1 JUNCTION CONNECTOR - ABS AND TRACTION ACTUATOR)



(a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
A36-1 (CANH) - A36-12 (CANL)	Ignition switch OFF	Below 1 Ω	A
A36-1 (CANH) - A36-12 (CANL)	Ignition switch OFF	Other	B

A

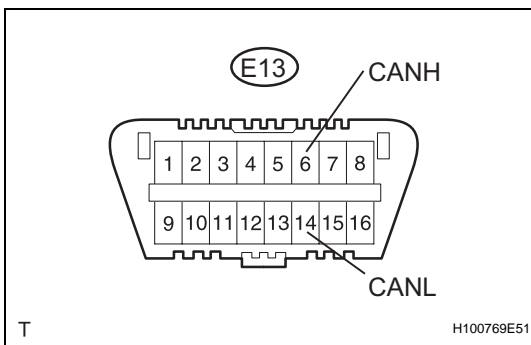
Go to step 18

B

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR**16 CONNECT CONNECTOR**

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

17 CHECK CAN BUS LINES FOR SHORT CIRCUIT (ECM)

- (a) Disconnect the A9 ECM connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

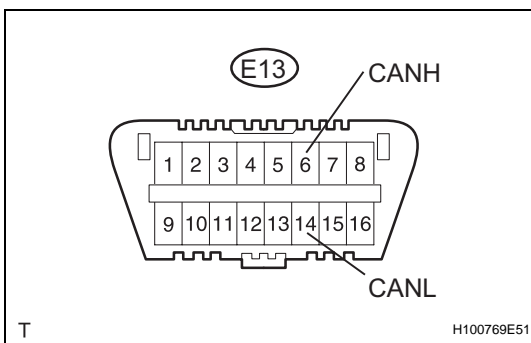
**REPAIR OR REPLACE CAN MAIN WIRE
 CONNECTED TO ECM (NO. 1 JUNCTION
 CONNECTOR - ECM)**

OK

REPLACE ECM**18 CONNECT CONNECTOR**

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

19 CHECK CAN BUS LINES FOR SHORT CIRCUIT (ABS AND TRACTION ACTUATOR)

- (a) Disconnect the A19 ABS and brake actuator (skid control ECU) connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

**REPAIR OR REPLACE CAN BRANCH WIRE
 CONNECTED TO ABS AND TRACTION
 ACTUATOR (CANH, CANL)**

OK

REPLACE ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

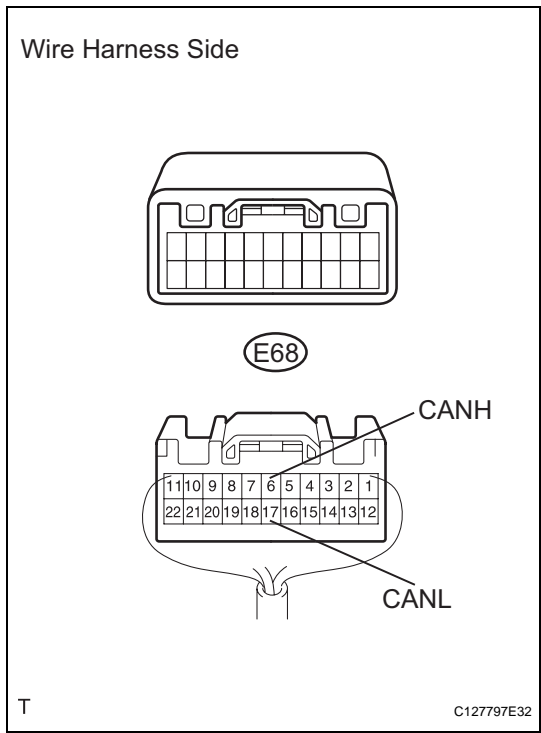
20CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

21CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 2 JUNCTION CONNECTOR - YAW RATE SENSOR)

CA



- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the wire harness side connector.

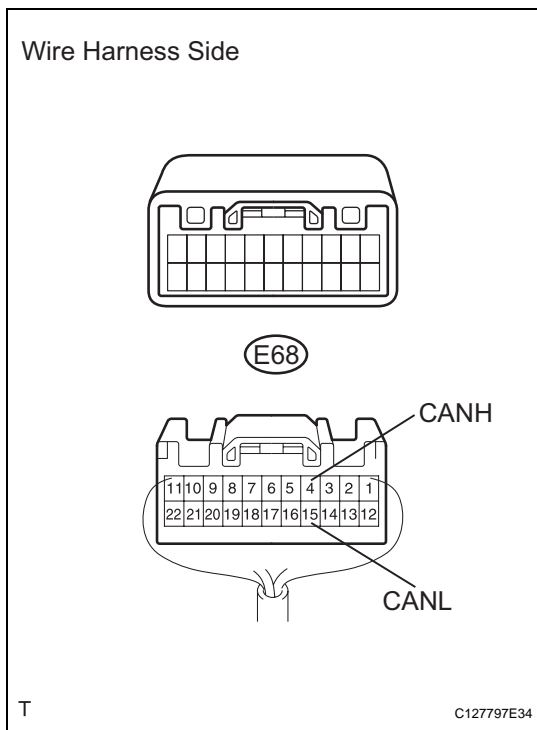
Result

Tester Connection	Condition	Specified Condition	Proceed to
E68-6 (CANH) - E68-17 (CANL)	Ignition switch OFF	Below 1 Ω	A
E68-6 (CANH) - E68-17 (CANL)	Ignition switch OFF	Other	B

A Go to step 26

B

22 CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 2 JUNCTION CONNECTOR - POWER STEERING ECU)



- (a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E68-4 (CANH) - E68-15 (CANL)	Ignition switch OFF	Below 1 Ω	A
E68-4 (CANH) - E68-15 (CANL)	Ignition switch OFF	Other	B

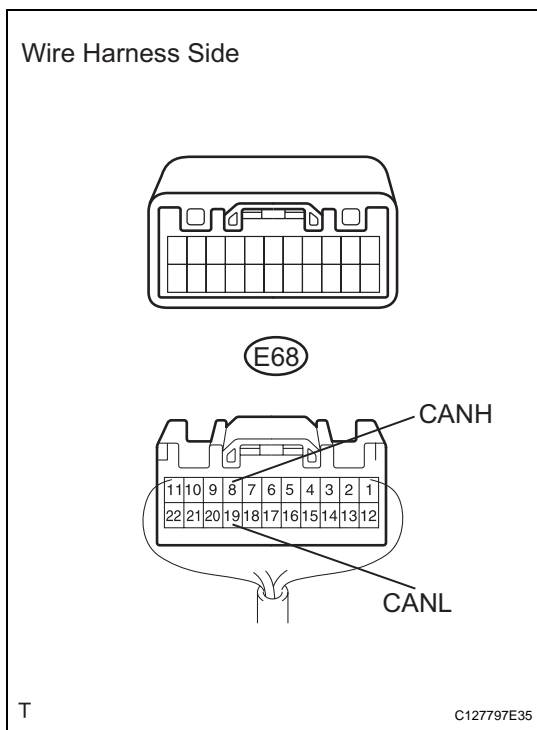
A

Go to step 28

B

CA

23 CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 2 JUNCTION CONNECTOR - MAIN BODY ECU)



- (a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E68-8 (CANH) - E68-19 (CANL)	Ignition switch OFF	Below 1 Ω	A
E68-8 (CANH) - E68-19 (CANL)	Ignition switch OFF	Other	B

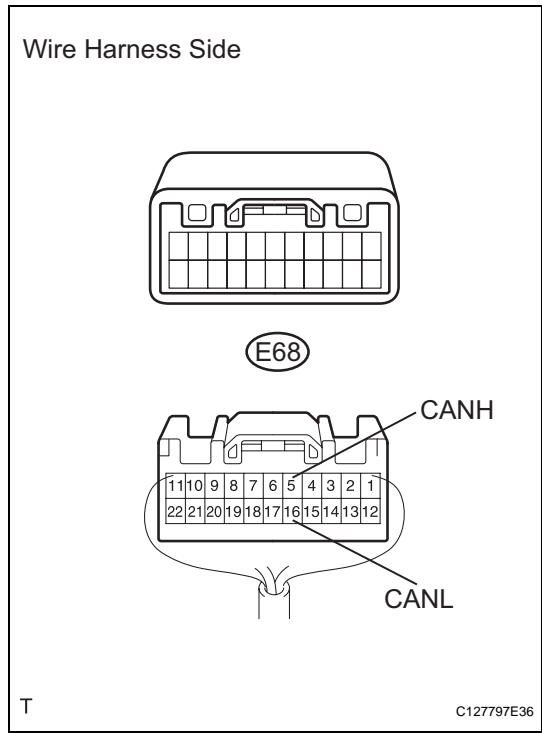
A

Go to step 30

B

24

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)



(a) Measure the resistance of the wire harness side connector.

Result

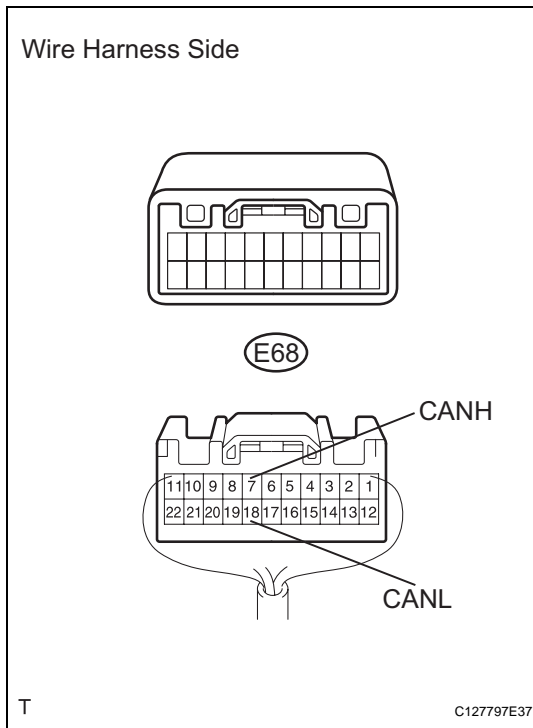
Tester Connection	Condition	Specified Condition	Proceed to
E68-5 (CANH) - E68-16 (CANL)	Ignition switch OFF	Below 1 Ω	A
E68-5 (CANH) - E68-16 (CANL)	Ignition switch OFF	Other	B

A

Go to step 32

B

25 CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 2 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)



- (a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E68-7 (CANH) - E68-18 (CANL)	Ignition switch OFF	Below 1 Ω	A
E68-7 (CANH) - E68-18 (CANL)	Ignition switch OFF	Other	B

A

Go to step 34

B

CA

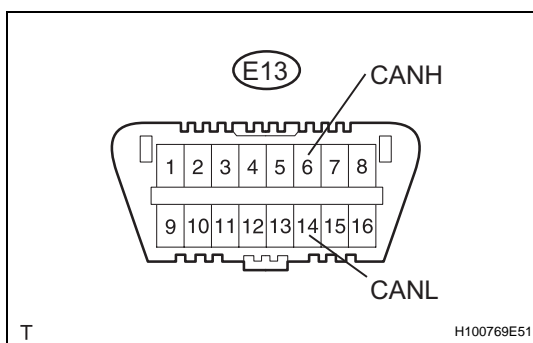
REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

26 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

27 CHECK CAN BUS LINES FOR SHORT CIRCUIT (YAW RATE SENSOR)



- (a) Disconnect the K6 yaw rate sensor connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

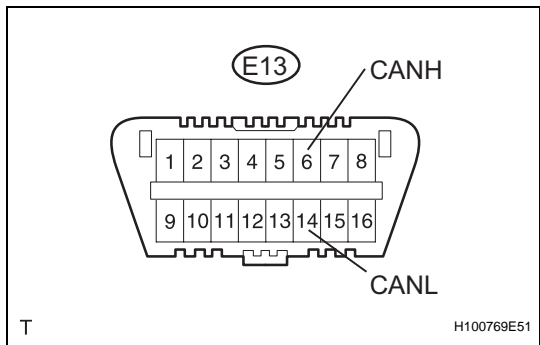
REPLACE YAW RATE SENSOR

28 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

29 CHECK CAN BUS LINES FOR SHORT CIRCUIT (POWER STEERING ECU)



- (a) Disconnect the E18 power steering ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER STEERING ECU (CANH, CANL)

OK

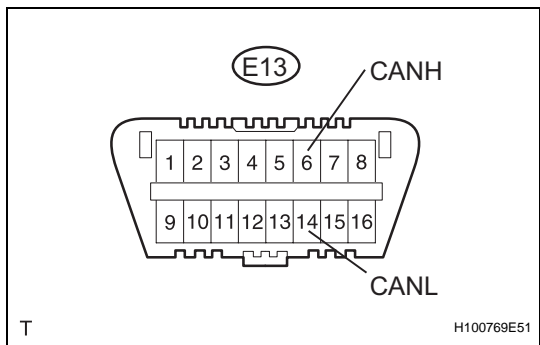
REPLACE POWER STEERING ECU

30 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

31 CHECK CAN BUS LINES FOR SHORT CIRCUIT (MAIN BODY ECU)



- (a) Disconnect the E17 main body ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK

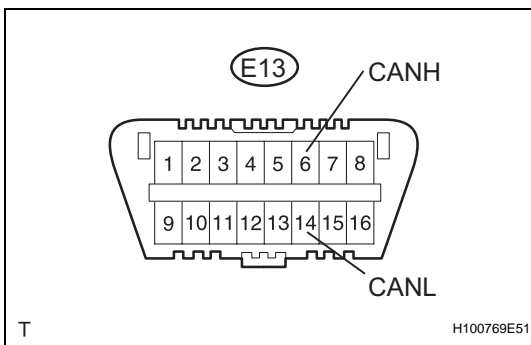
REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

32 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

33 CHECK CAN BUS LINES FOR SHORT CIRCUIT (AIR CONDITIONING AMPLIFIER)



- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.

HINT:

- *1: for Automatic air conditioning system.
- *2: for Manual air conditioning system.

- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

**REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO AIR CONDITIONING
AMPLIFIER (CANH, CANL)**

OK

REPLACE AIR CONDITIONING AMPLIFIER

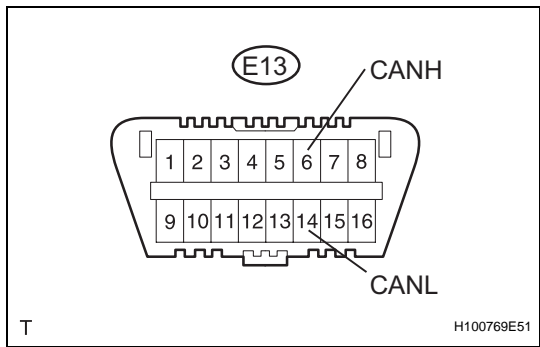
34 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

35

CHECK CAN BUS LINES FOR SHORT CIRCUIT (STEERING ANGLE SENSOR)



- (a) Disconnect the E11 steering sensor connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

CA

REPLACE STEERING ANGLE SENSOR

36

CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)

NOTICE:
For vehicles without 4WD, go to "CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)".

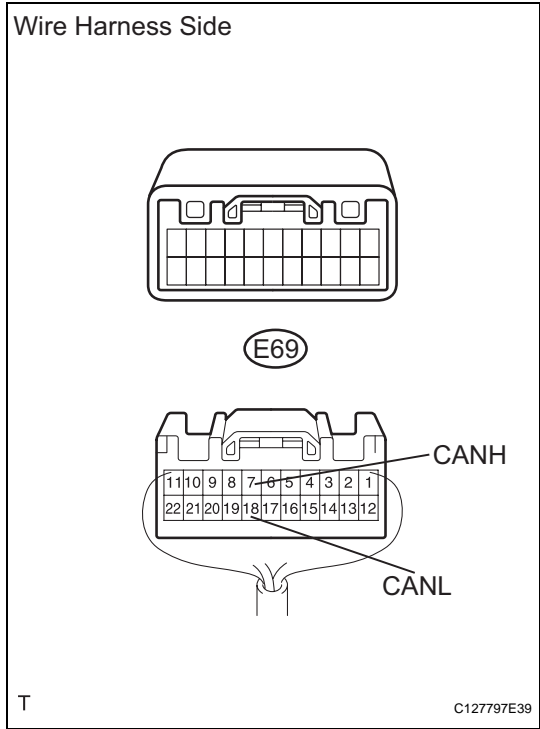
- (a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E69-7 (CANH) - E69-18 (CANL)	Ignition switch OFF	Below 1 Ω	A
E69-7 (CANH) - E69-18 (CANL)	Ignition switch OFF	Other	B

A

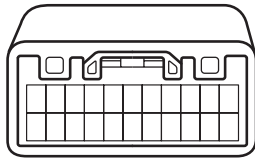
Go to step 38



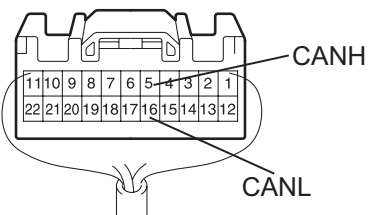
B

37 CHECK CAN BUS LINES FOR SHORT CIRCUIT (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)

Wire Harness Side



(E69)



T

C127797E38

- (a) Measure the resistance of the wire harness side connector.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E69-5 (CANH) - E69-16 (CANL)	Ignition switch OFF	Below 1 Ω	A
E69-5 (CANH) - E69-16 (CANL)	Ignition switch OFF	Other	B

A

Go to step 40

B

CA

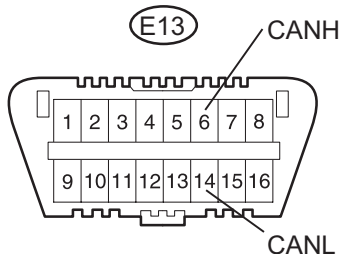
REPAIR OR REPLACE NO. 4 JUNCTION CONNECTOR

38 CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT

39 CHECK CAN BUS LINES FOR SHORT CIRCUIT (4WD CONTROL ECU)



T

H100769E51

- (a) Disconnect the E57 4WD control ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CANH, CANL)

OK

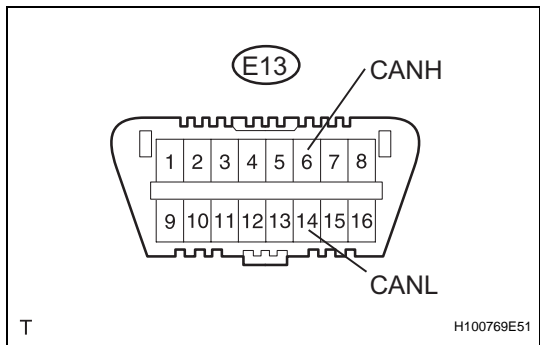
REPLACE 4WD CONTROL ECU

40CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

41CHECK CAN BUS LINES FOR SHORT CIRCUIT (COMBINATION METER ECU)



- (a) Disconnect the E19 combination meter ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NGREPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ECU (CANH, CANL)

OK

REPLACE COMBINATION METER ECU

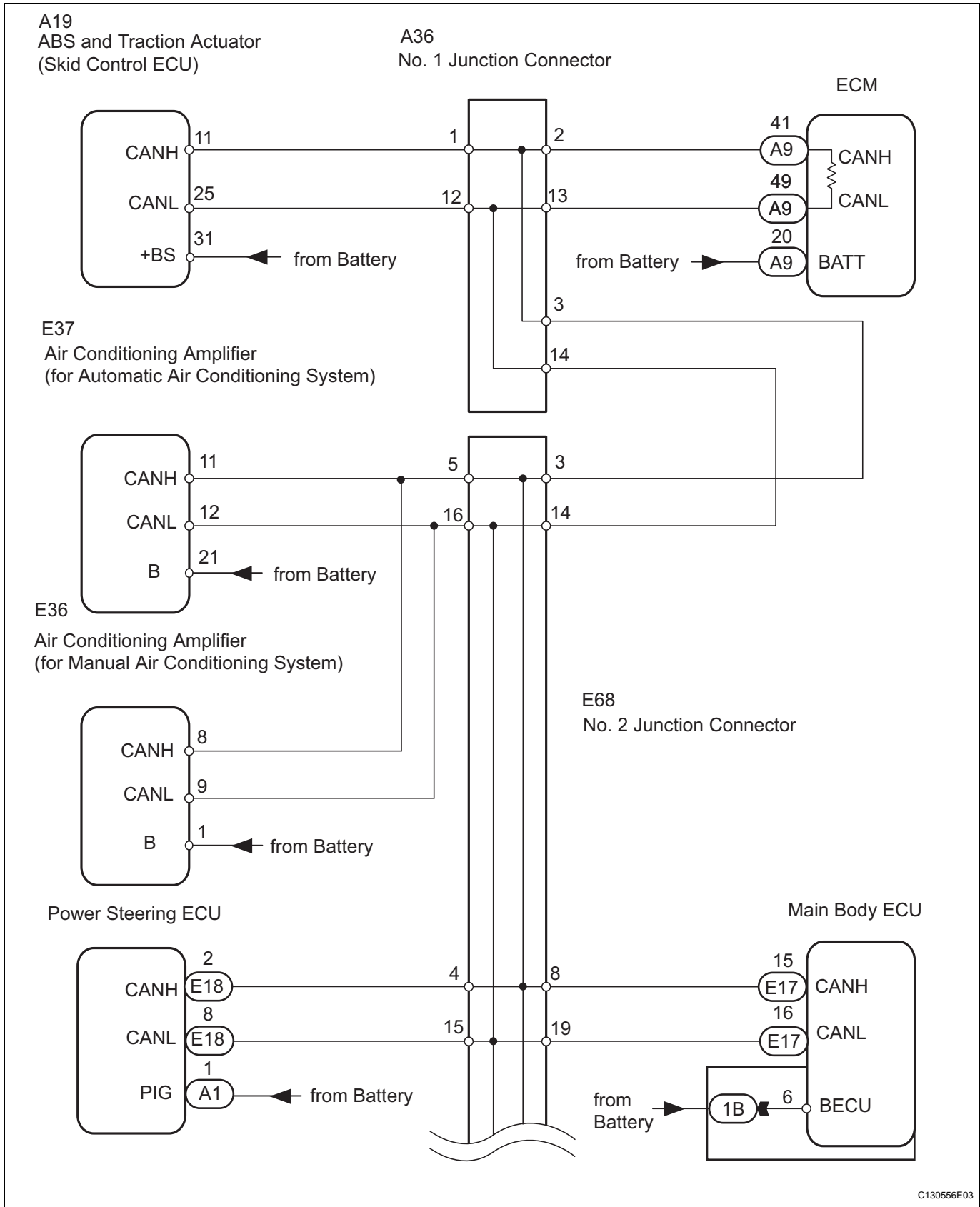
Short to B+ in CAN Bus Line

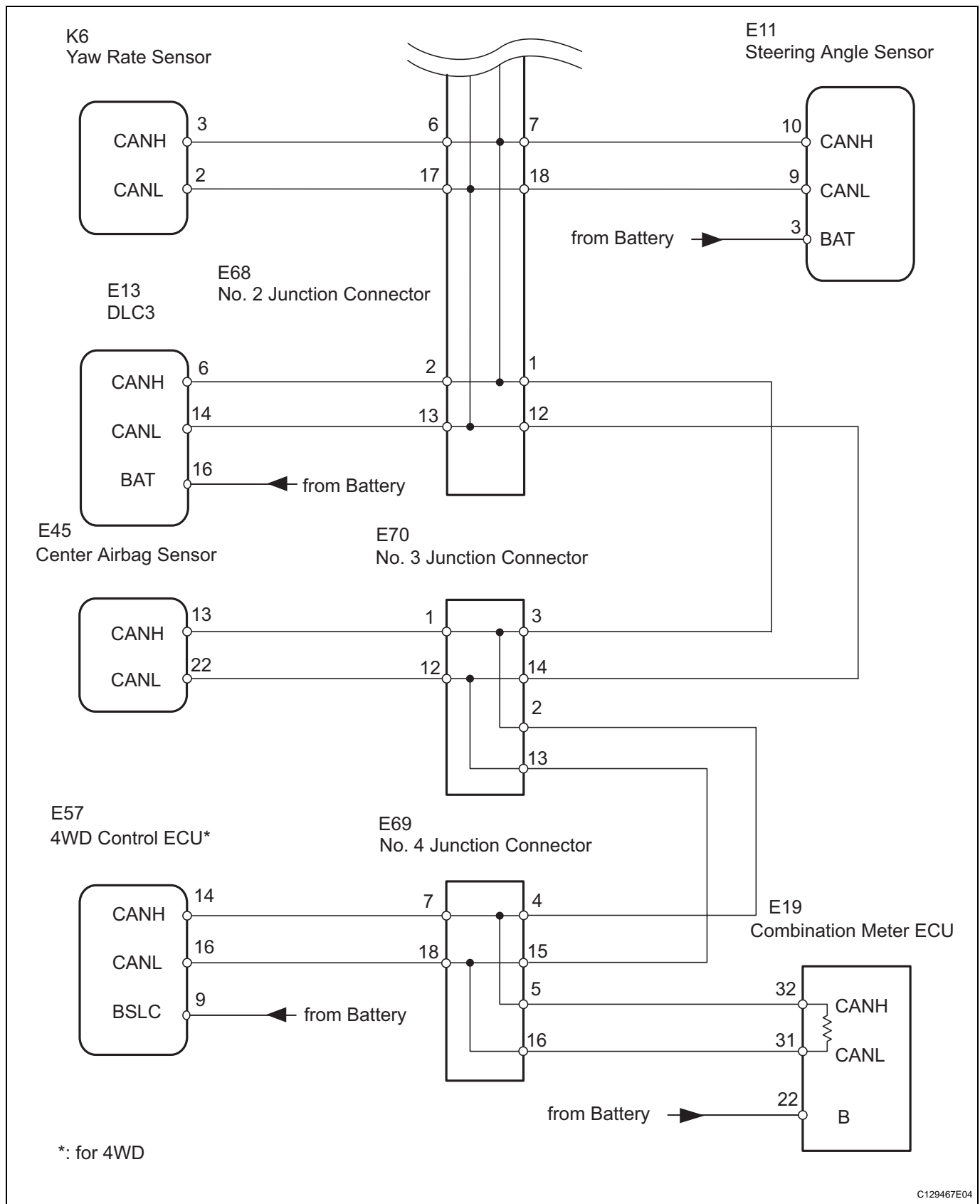
DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

Symptom	Trouble Area
There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of DLC3.	<ul style="list-style-type: none">• Short to +B• ABS and traction actuator (skid control ECU)• Power steering ECU• Steering angle sensor• Yaw rate sensor• ECM• Center airbag sensor• Combination meter ECU• Air conditioning amplifier• Instrument panel junction block (Main body ECU)• 4WD control ECU

WIRING DIAGRAM





INSPECTION PROCEDURE

NOTICE:

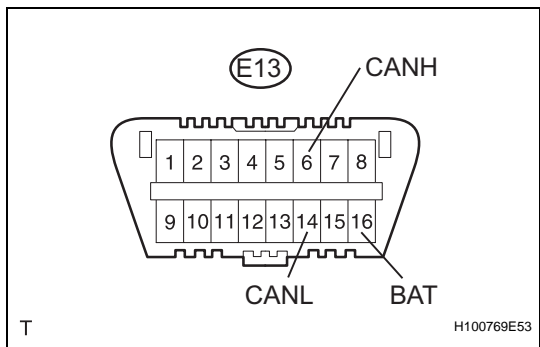
- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.

- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR SHORT TO +B (DLC3 BRANCH WIRE)



- (a) Disconnect the E68 No. 2 junction connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

2

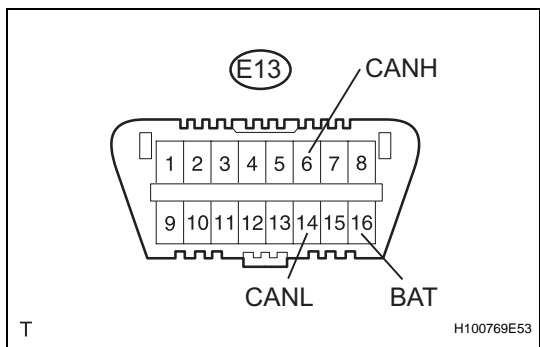
CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

3

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 1 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the A36 No. 1 junction connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

OK

Go to step 12

NG

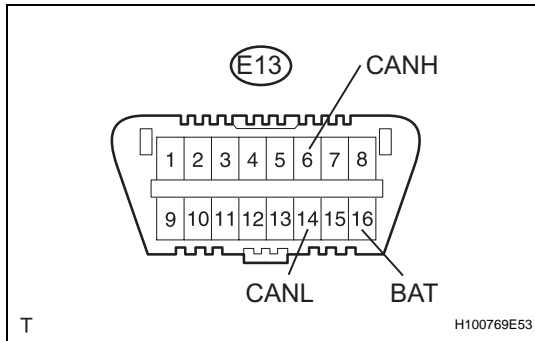
4

CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

5 CHECK CAN BUS LINE FOR SHORT TO +B (NO. 3 JUNCTION CONNECTOR, NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E70 No. 3 junction connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

Go to step 18

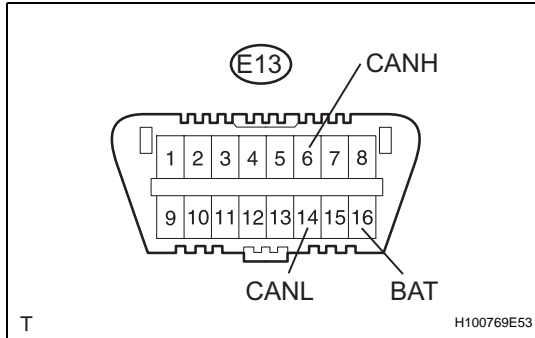
OK

6 CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

7 CHECK CAN BUS LINE FOR SHORT TO +B (NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E69 No. 4 junction connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

OK

Go to step 34

NG

8 CONNECT CONNECTOR

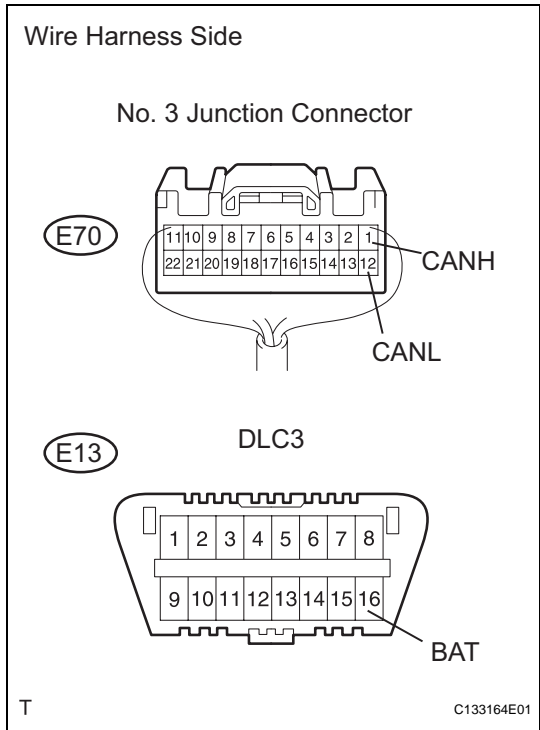
- (a) Reconnect the E69 No. 4 junction connector.

NEXT

CA

9

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 3 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)



- (a) Disconnect the E70 No. 3 junction connector.
- (b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E70-1 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E70-12 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

OK

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

NG

10

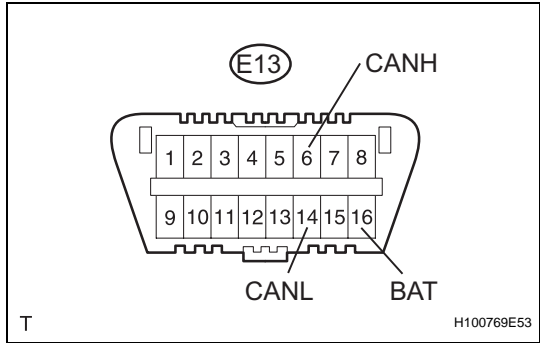
CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

11

CHECK CAN BUS LINE FOR SHORT TO +B (CENTER AIRBAG SENSOR ASSEMBLY)



- (a) Disconnect the E45 center airbag sensor connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

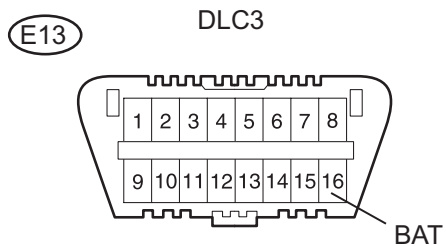
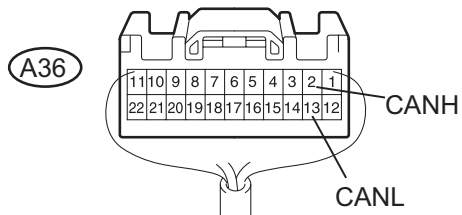
OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY

12 CHECK CAN BUS LINE FOR SHORT TO +B (NO. 1 JUNCTION CONNECTOR - ECM)

Wire Harness Side

No. 1 Junction Connector



T

C133164E03

- (a) Disconnect the A36 No. 1 junction connector.
 (b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-2 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
A36-13 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

Go to step 14

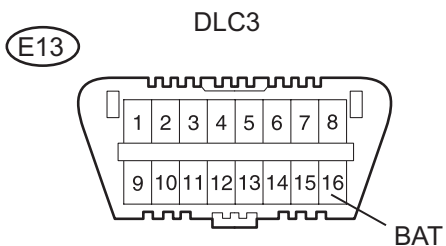
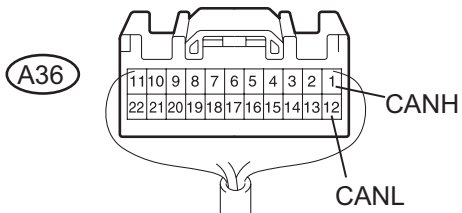
OK

CA

13 CHECK CAN BUS LINE FOR SHORT TO +B (NO. 1 JUNCTION CONNECTOR - ABS AND TRACTION ACTUATOR)

Wire Harness Side

No. 1 Junction Connector



T

C133164E04

- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-1 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
A36-12 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

Go to step 16

OK

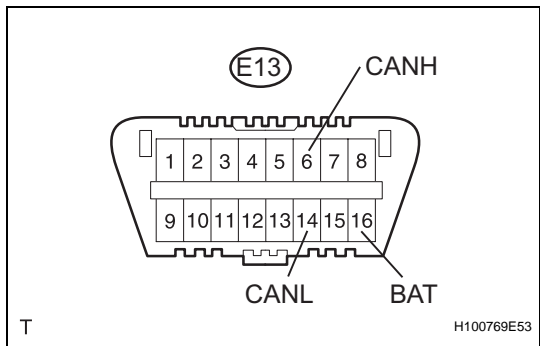
REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

14CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

15CHECK CAN BUS LINE FOR SHORT TO +B (ECM)



- (a) Disconnect the A9 ECM connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (NO. 1 JUNCTION CONNECTOR - ECM)

OK

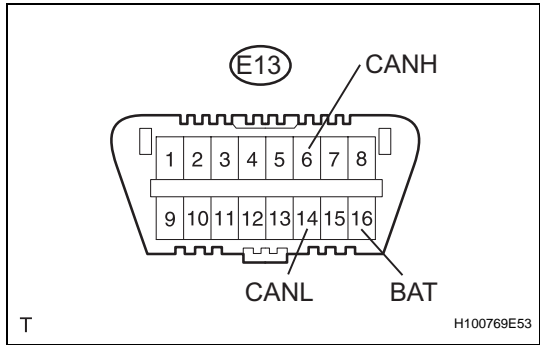
REPLACE ECM

16CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

17CHECK CAN BUS LINE FOR SHORT TO +B (ABS AND TRACTION ACTUATOR)



- (a) Disconnect the A19 ABS and traction actuator (skid control ECU) connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

**REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO ABS AND TRACTION
ACTUATOR (CANH, CANL)**

OK

REPLACE ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

18 CONNECT CONNECTOR

(a) Reconnect the E70 No. 3 junction connector.

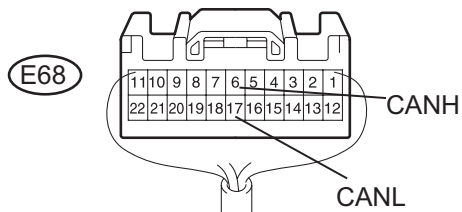
NEXT

19 CHECK CAN BUS LINE FOR SHORT TO +B (NO. 2 JUNCTION CONNECTOR - YAW RATE SENSOR)

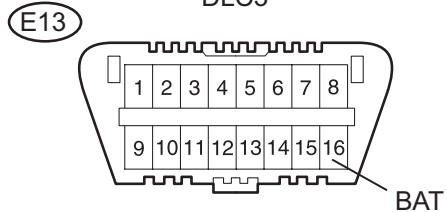
CA

Wire Harness Side

No. 2 Junction Connector



DLC3



T

C133164E05

- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more
E68-17 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more

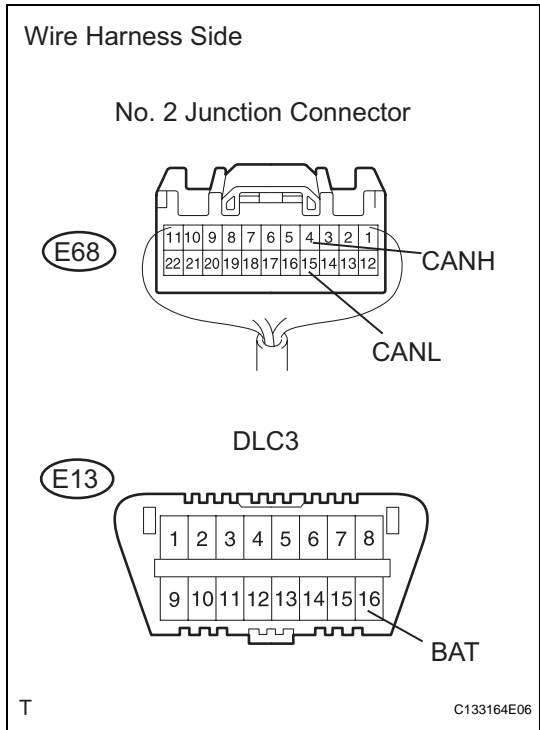
NG

Go to step 24

OK

20

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 2 JUNCTION CONNECTOR - POWER STEERING ECU)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-4 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E68-15 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

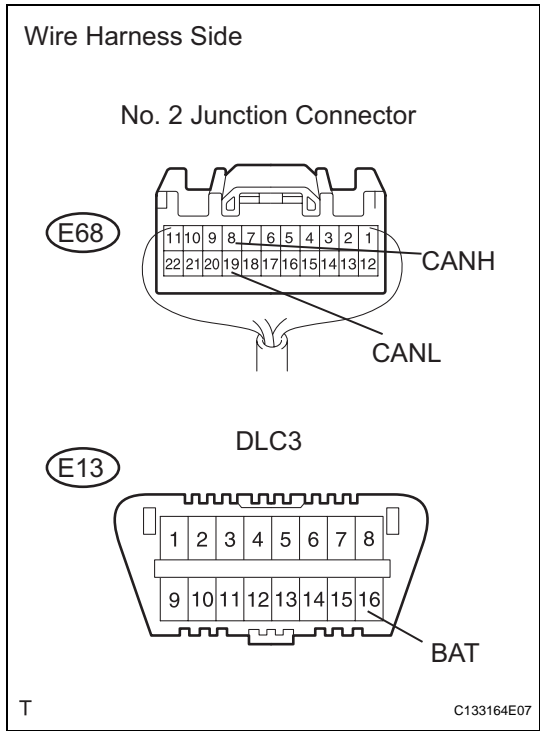
NG

Go to step 26

OK

21

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 2 JUNCTION CONNECTOR - MAIN BODY ECU)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-8 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E68-19 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

Go to step 28

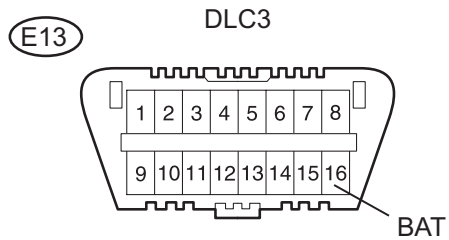
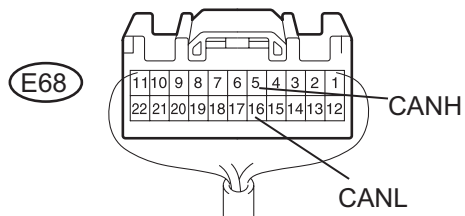
OK

22

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

Wire Harness Side

No. 2 Junction Connector



T

C133164E08

- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-5 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more
E68-16 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more

NG

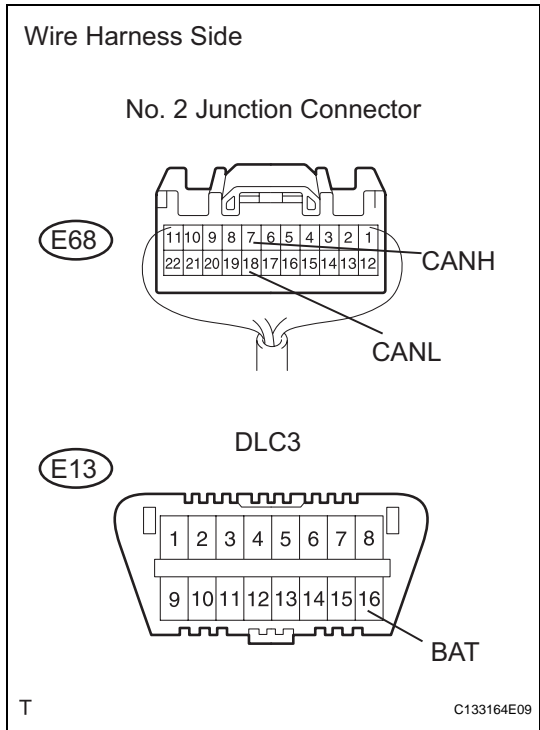
Go to step 30

CA

OK

23

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 2 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-7 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E68-18 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

Go to step 32

OK

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

24

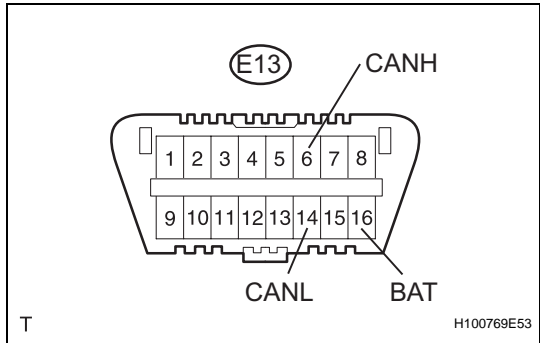
CONNECT CONNECTOR

(a) Reconnect the E68 No. 2 junction connector.

NEXT

25

CHECK CAN BUS LINE FOR SHORT TO +B (YAW RATE SENSOR)



(a) Disconnect the K6 yaw rate sensor connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

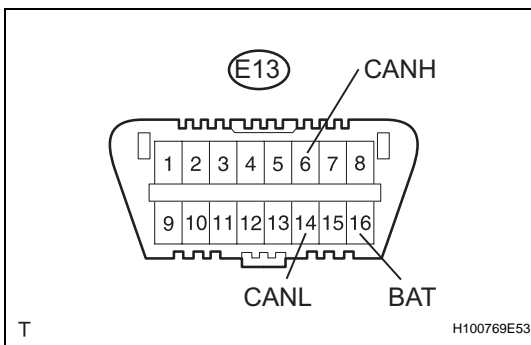
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

REPLACE YAW RATE SENSOR**26 CONNECT CONNECTOR**

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

27 CHECK CAN BUS LINE FOR SHORT TO +B (POWER STEERING ECU)

- (a) Disconnect the E18 power steering ECU connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

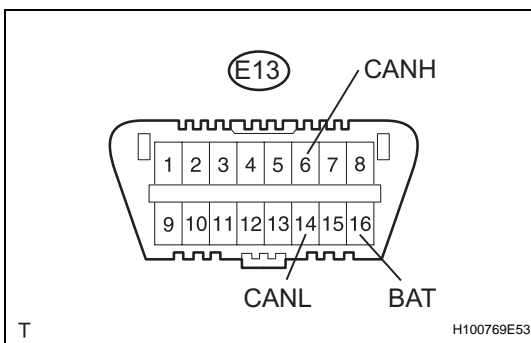
**REPAIR OR REPLACE CAN BRANCH WIRE
 CONNECTED TO POWER STEERING ECU
 (CANH, CANL)**

OK

REPLACE POWER STEERING ECU**28 CONNECT CONNECTOR**

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

29 CHECK CAN BUS LINE FOR SHORT TO +B (MAIN BODY ECU)

- (a) Disconnect the E17 main body ECU connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

30

CONNECT CONNECTOR

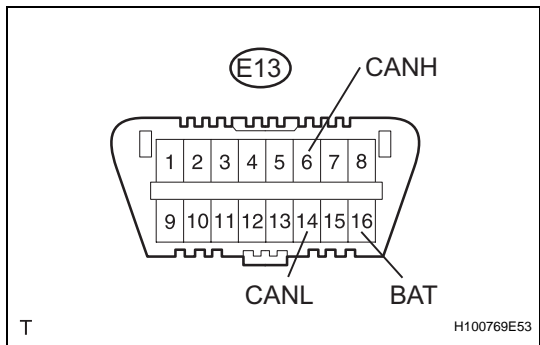
- (a) Reconnect the E68 No. 2 junction connector.

NEXT

31

CHECK CAN BUS LINE FOR SHORT TO +B (AIR CONDITIONING AMPLIFIER)

CA



- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.
HINT:
- *1: for Automatic air conditioning system.
 - *2: for Manual air conditioning system.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

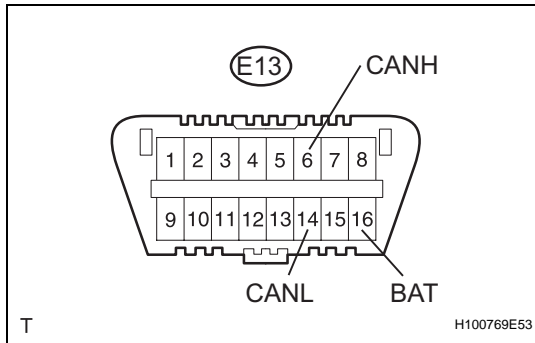
REPLACE AIR CONDITIONING AMPLIFIER

32

CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

33 CHECK CAN BUS LINE FOR SHORT TO +B (STEERING ANGLE SENSOR)

- (a) Disconnect the E11 steering sensor connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more

NG

**REPLACE CAN BRANCH WIRE
 CONNECTED TO STEERING ANGLE
 SENSOR (CANH, CANL)**

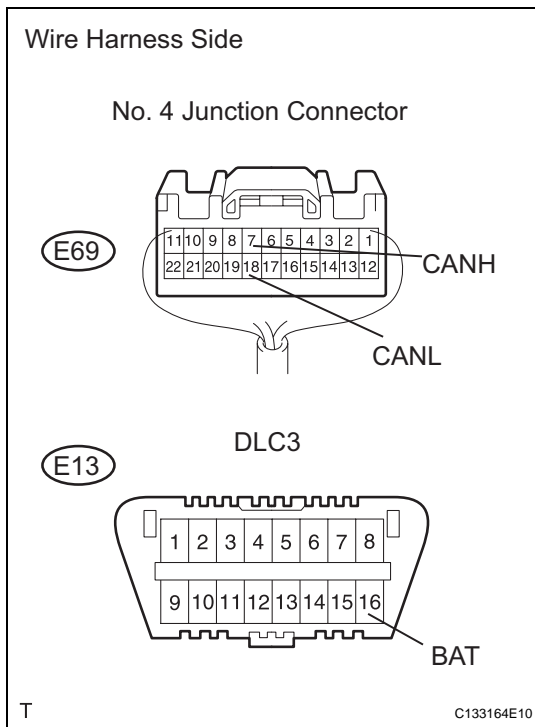
OK**CA****REPLACE STEERING ANGLE SENSOR****34 CHECK CAN BUS LINE FOR SHORT TO +B (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)****NOTICE:**

For vehicles without 4WD, go to "CHECK CAN BUS LINE FOR SHORT TO +B (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)".

- (a) Measure the resistance of the wire harness side connectors.

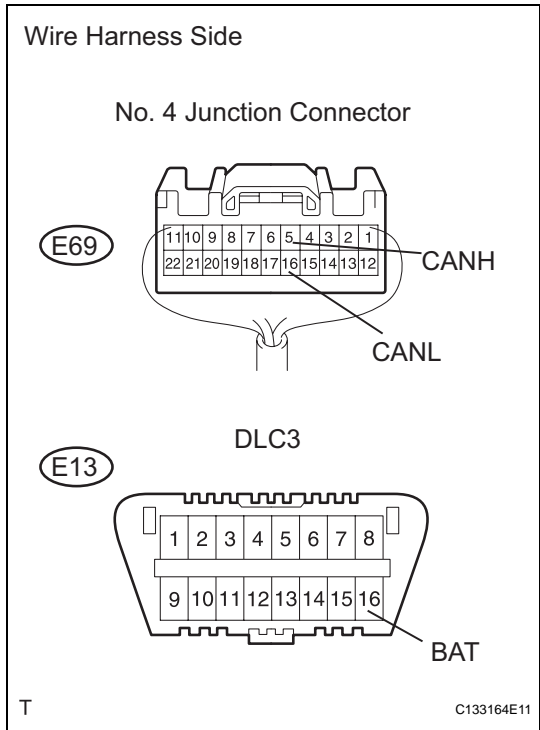
Standard resistance

Tester Connection	Condition	Specified Condition
E69-7 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more
E69-18 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more

NG**Go to step 36****OK**

35

CHECK CAN BUS LINE FOR SHORT TO +B (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E69-5 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E69-16 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

Go to step 38

OK

36

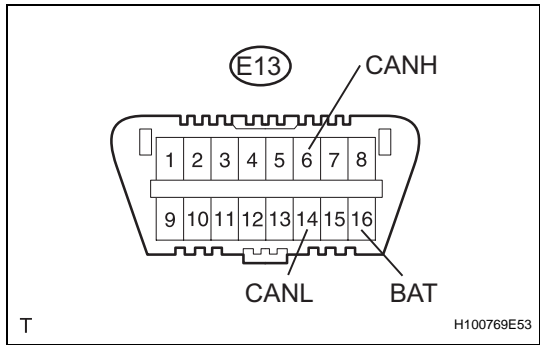
CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

37

CHECK CAN BUS LINE FOR SHORT TO +B (4WD CONTROL ECU)



- (a) Disconnect the E57 4WD control ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 MΩ or more

NG

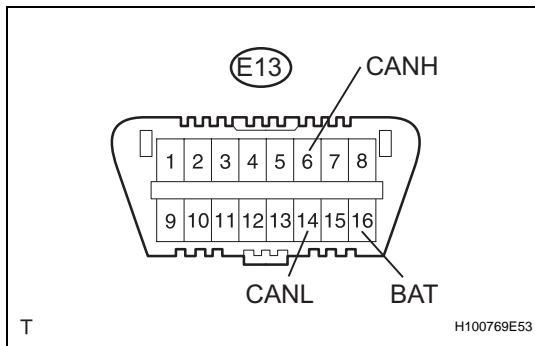
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CANH, CANL)

OK

REPLACE 4WD CONTROL ECU

38 CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT**39 CHECK CAN BUS LINE FOR SHORT TO +B (COMBINATION METER ECU)**

- (a) Disconnect the E19 combination meter ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more
E13-14 (CANL) - E13-16 (BAT)	Ignition switch OFF	1 M Ω or more

NG

**REPAIR OR REPLACE CAN MAIN WIRE
CONNECTED TO COMBINATION METER
ECU (CANH, CANL)**

OK**REPLACE COMBINATION METER ECU****CA**

Short to GND in CAN Bus Line

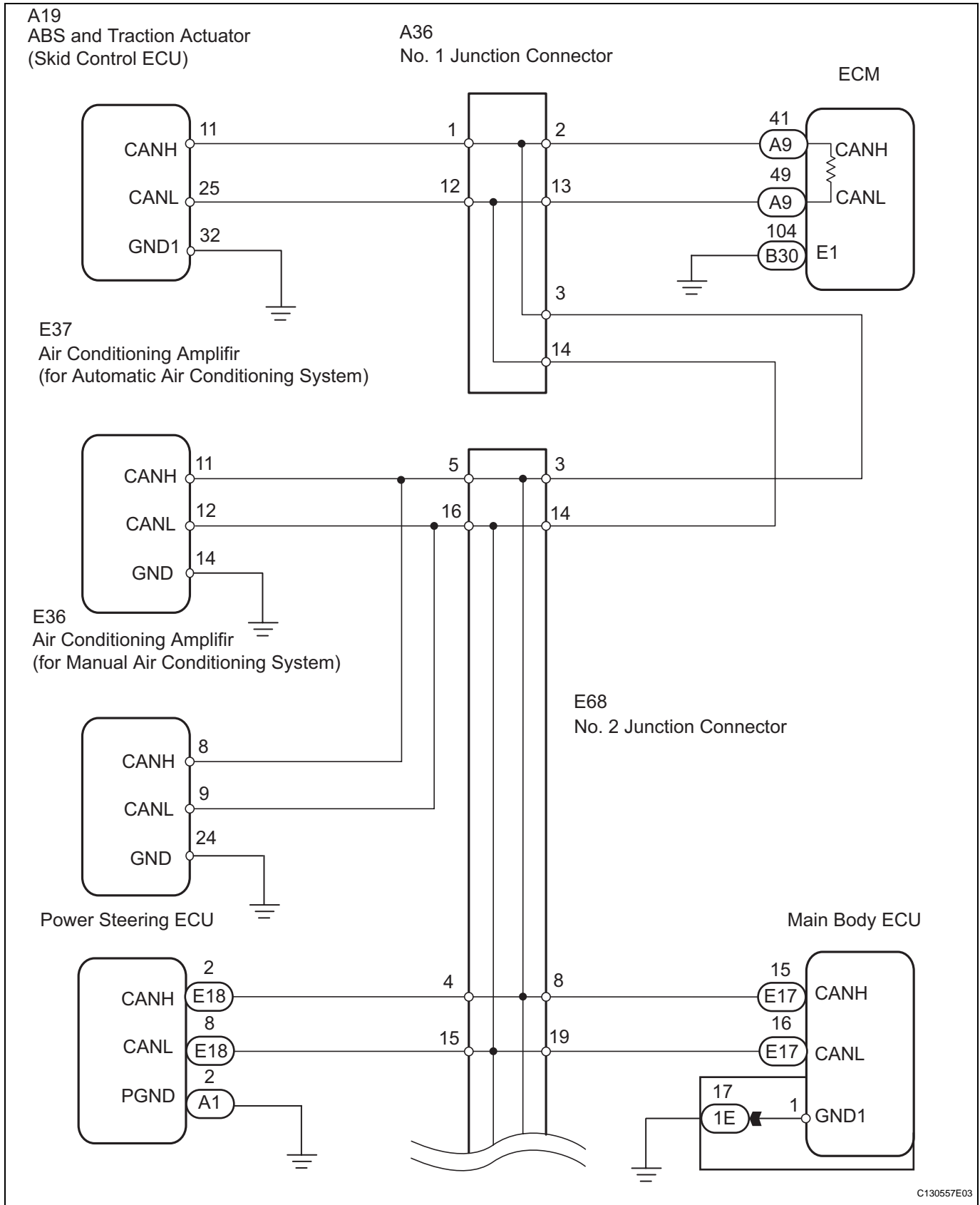
(2005/11-2006/01)

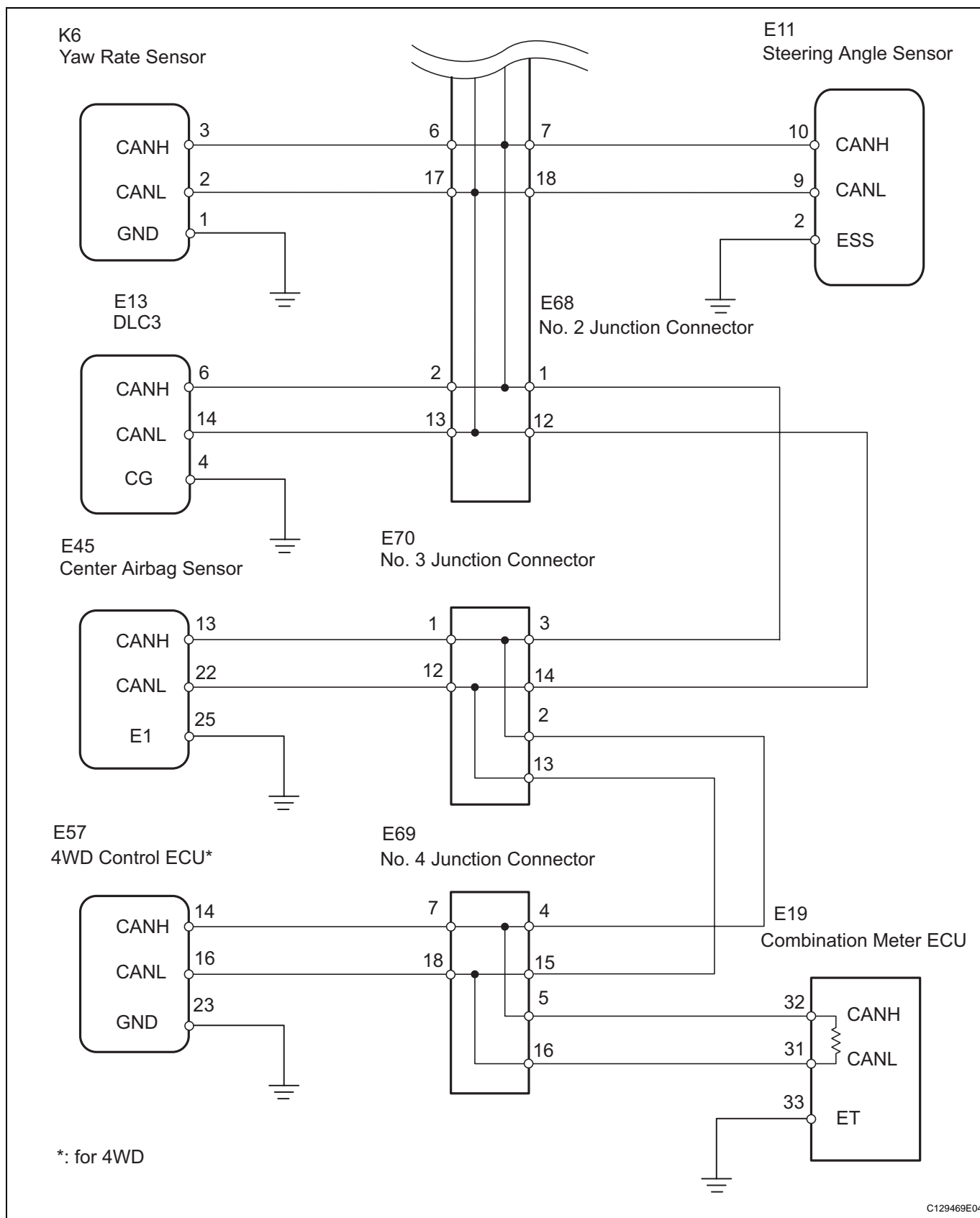
DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

Symptom	Trouble Area
There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of DLC3.	<ul style="list-style-type: none">• Short to GND• ABS and traction actuator (skid control ECU)• Power steering ECU• Steering angle sensor• Yaw rate sensor• ECM• Center airbag sensor• Air conditioning amplifier• Combination meter ECU• Instrument panel junction block (Main body ECU)• 4WD control ECU

WIRING DIAGRAM





INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.

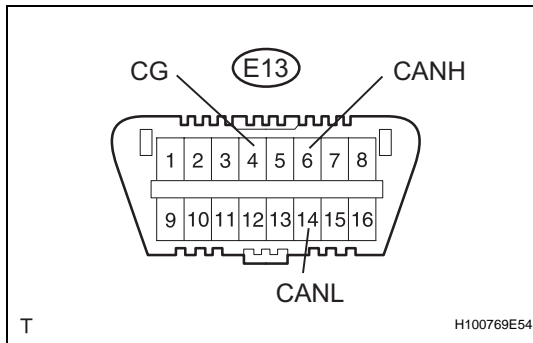
- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR SHORT TO GND (DLC3 BRANCH WIRE)



- Disconnect the E68 No. 2 junction connector.
- Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

2

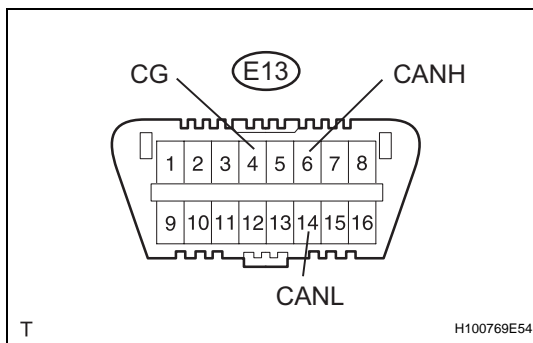
CONNECT CONNECTOR

- Reconnect the E68 No. 2 junction connector.

NEXT

3

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 1 JUNCTION CONNECTOR)



- Disconnect the A36 No. 1 junction connector.
- Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

Go to step 12

NG

4

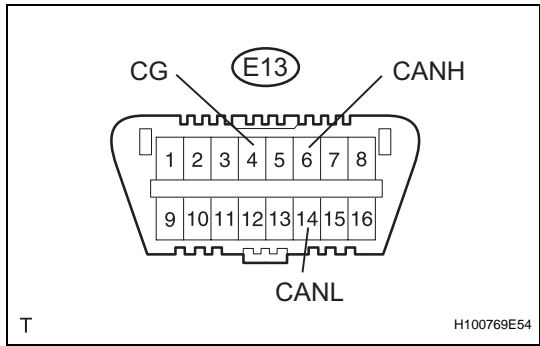
CONNECT CONNECTOR

- Reconnect the A36 No. 1 junction connector.

NEXT

5

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 3 JUNCTION CONNECTOR, NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E70 No. 3 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 18

OK

CA

6

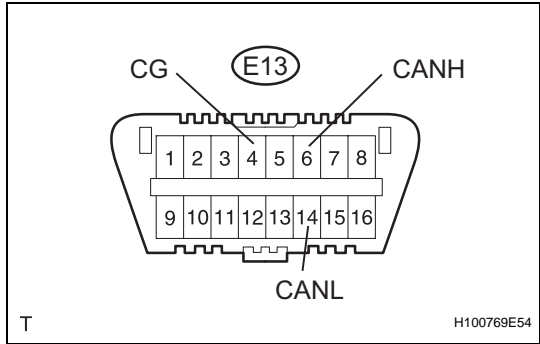
CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

7

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E69 No. 4 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

Go to step 34

NG

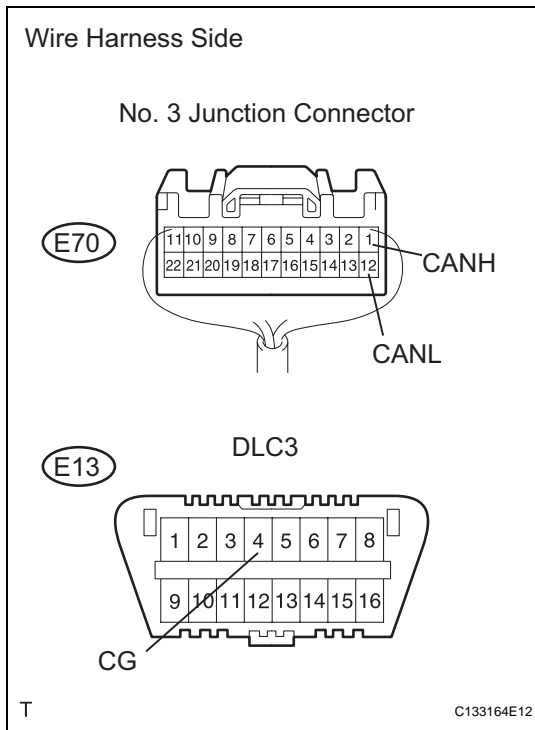
8

CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT

9 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 3 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)



- Disconnect the E70 No. 3 junction connector.
- Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E70-1 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E70-12 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

CA

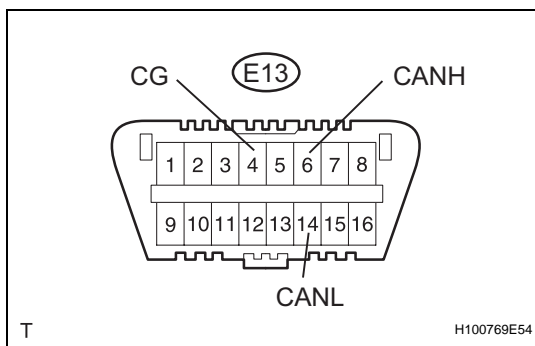
NG

10 CONNECT CONNECTOR

- Reconnect the E70 No. 3 junction connector.

NEXT

11 CHECK CAN BUS LINE FOR SHORT TO GND (CENTER AIRBAG SENSOR ASSEMBLY)



- Disconnect the E45 center airbag sensor connector.
- Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

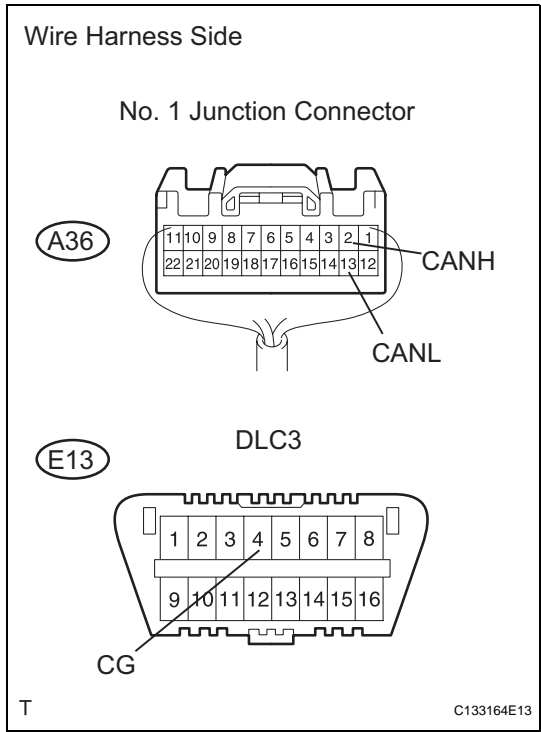
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY

12

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 1 JUNCTION CONNECTOR - ECM)



- (a) Disconnect the A36 No. 1 junction connector.
- (b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-2 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
A36-13 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

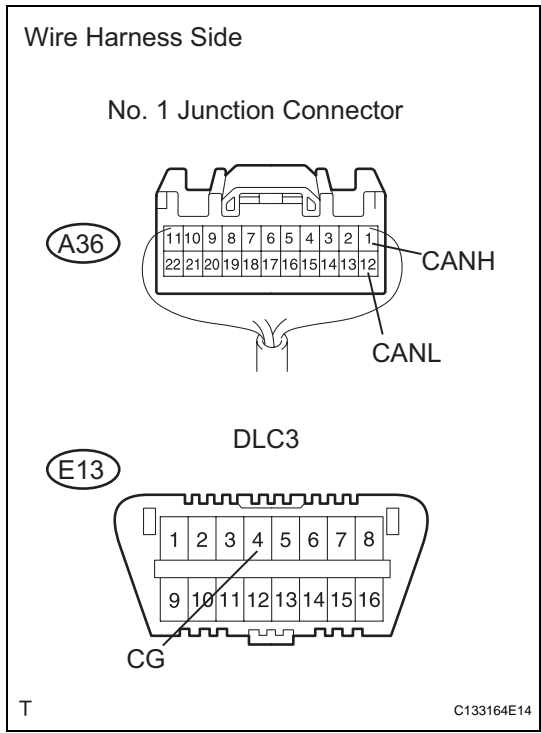
NG

Go to step 14

OK

13

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 1 JUNCTION CONNECTOR - ABS AND TRACTION ACTUATOR)



- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-1 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
A36-12 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 16

OK

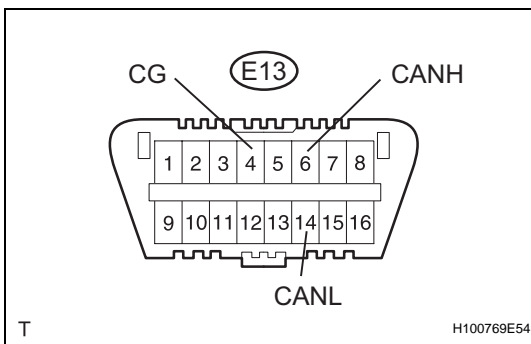
REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

14 CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

15 CHECK CAN BUS LINE FOR SHORT TO GND (ECM)



- (a) Disconnect the A9 ECM connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (NO. 1 JUNCTION CONNECTOR - ECM)

OK

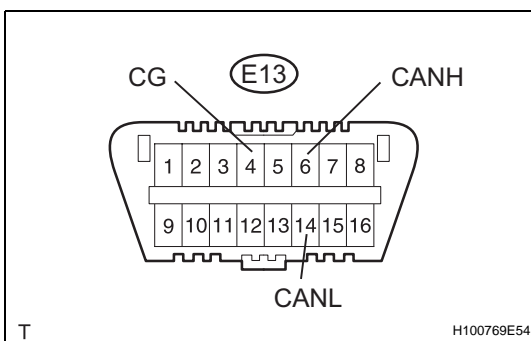
REPLACE ECM

16 CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

17 CHECK CAN BUS LINE FOR SHORT TO GND (ABS AND TRACTION ACTUATOR)



- (a) Disconnect the A19 ABS and traction actuator (skid control ECU) connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO ABS AND TRACTION ACTUATOR (CANH, CANL)

OK

REPLACE ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

18

CONNECT CONNECTOR

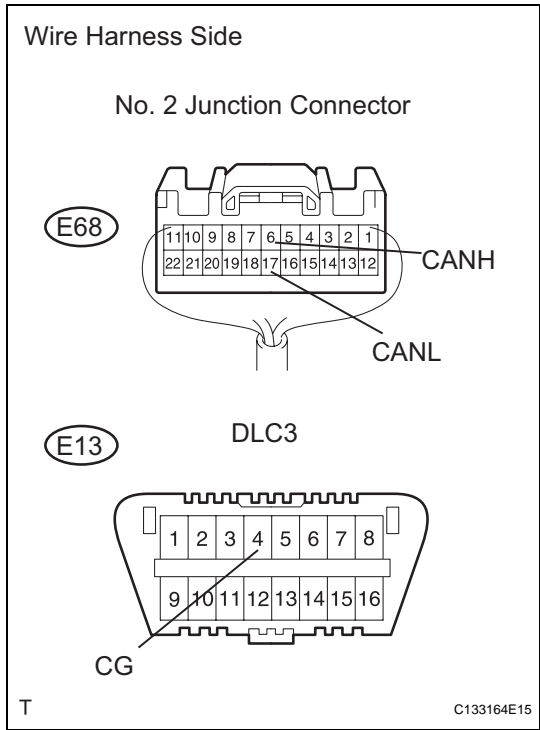
(a) Reconnect the E70 No. 3 junction connector.

NEXT

19

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - YAW RATE SENSOR)

CA



- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-17 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

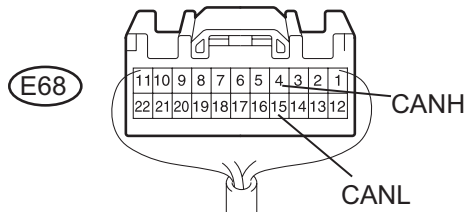
Go to step 24

OK

20**CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - POWER STEERING ECU)**

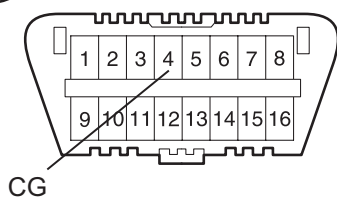
Wire Harness Side

No. 2 Junction Connector



E13

DLC3



T

C133164E16

- (a) Measure the resistance of the wire harness side connectors.

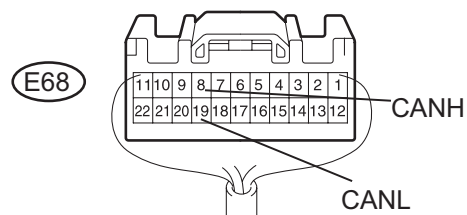
Standard resistance

Tester Connection	Condition	Specified Condition
E68-4 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-15 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG**Go to step 26****OK****CA****21****CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - MAIN BODY ECU)**

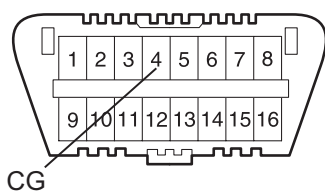
Wire Harness Side

No. 2 Junction Connector



E13

DLC3



T

C133164E17

- (a) Measure the resistance of the wire harness side connectors.

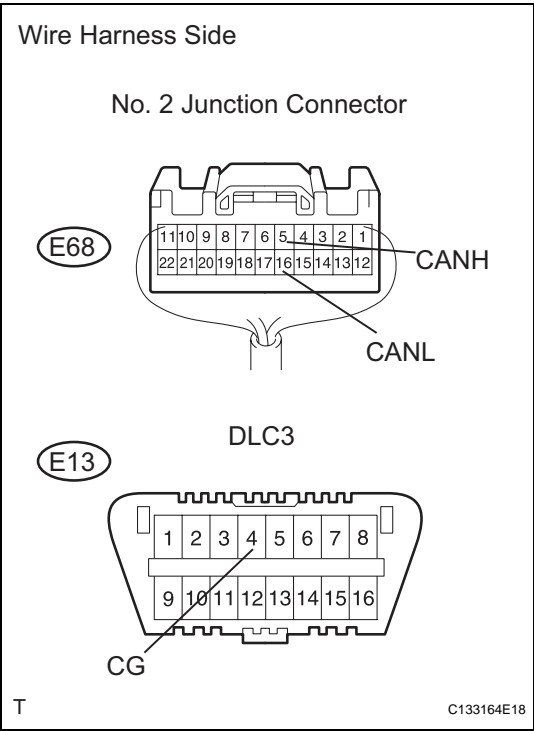
Standard resistance

Tester Connection	Condition	Specified Condition
E68-8 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-19 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG**Go to step 28**

OK

22 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

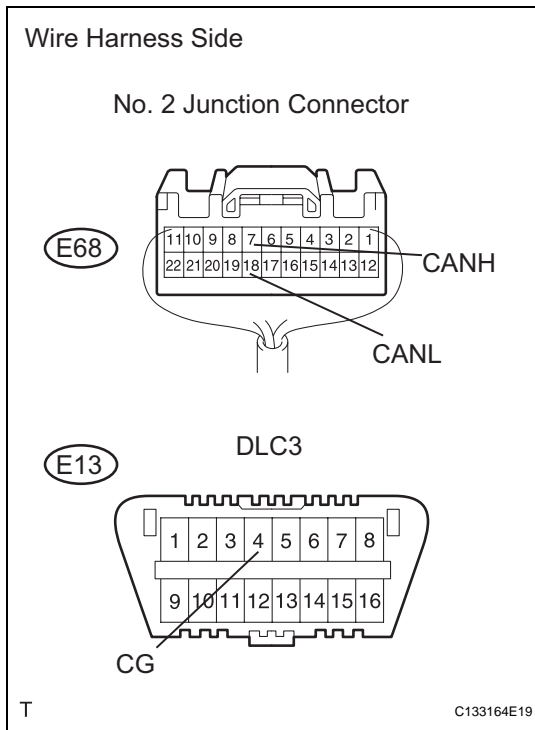
Tester Connection	Condition	Specified Condition
E68-5 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-16 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 30

OK

23 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)



- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-7 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-18 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 32

OK

CA

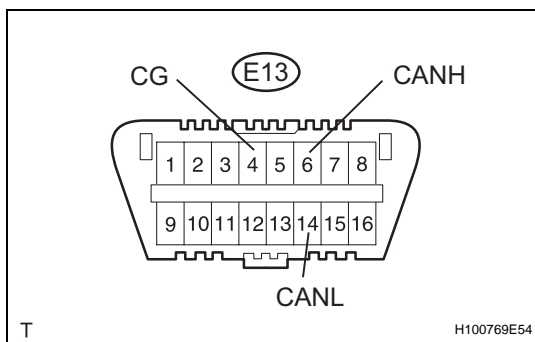
REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

24 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

25 CHECK CAN BUS LINE FOR SHORT TO GND (YAW RATE SENSOR)



- (a) Disconnect the K6 yaw rate sensor connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

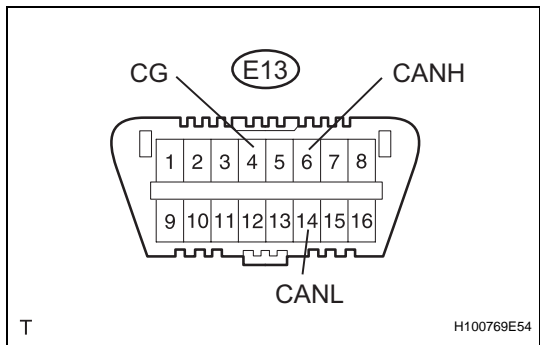
REPLACE YAW RATE SENSOR

26 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

27 CHECK CAN BUS LINE FOR SHORT TO GND (POWER STEERING ECU)



- (a) Disconnect the E18 power steering ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER STEERING ECU (CANH, CANL)

OK

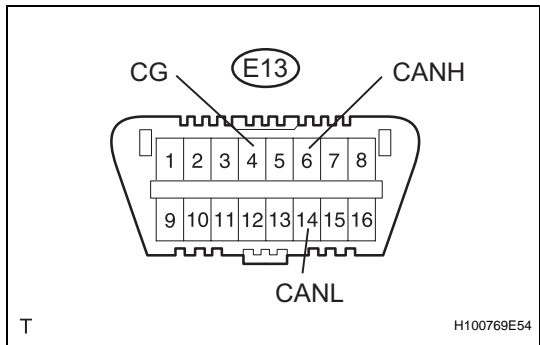
REPLACE POWER STEERING ECU

28 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

29 CHECK CAN BUS LINE FOR SHORT TO GND (MAIN BODY ECU)



- (a) Disconnect the E17 main body ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

**REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO MAIN BODY ECU (CANH,
CANL)**

OK

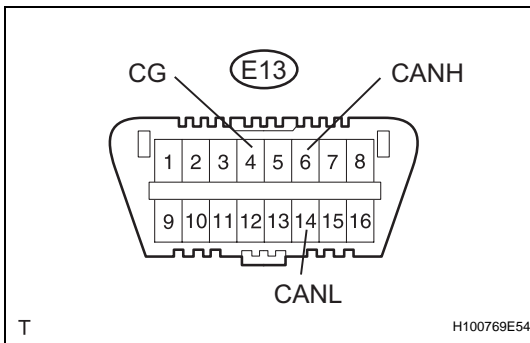
REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

30 CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

31 CHECK CAN BUS LINE FOR SHORT TO GND (AIR CONDITIONING AMPLIFIER)



- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.

HINT:

- *1: for Automatic air conditioning system.
- *2: for Manual air conditioning system.

- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

**REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO AIR CONDITIONING
AMPLIFIER (CANH, CANL)**

OK

REPLACE AIR CONDITIONING AMPLIFIER

32 CONNECT CONNECTOR

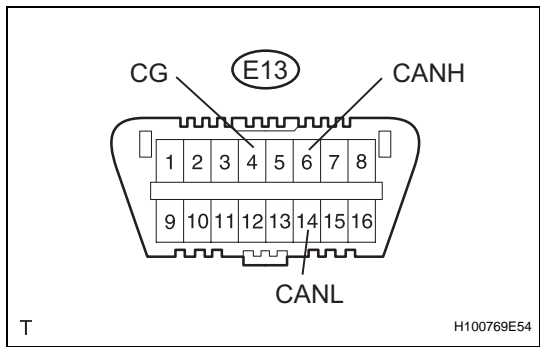
- (a) Reconnect the 68 No. 2 junction connector.

NEXT

CA

33

CHECK CAN BUS LINE FOR SHORT TO GND (STEERING ANGLE SENSOR)



- (a) Disconnect the E11 steering sensor connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

CA

REPLACE STEERING ANGLE SENSOR

34

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)

NOTICE:
For vehicles without 4WD, go to "CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)".

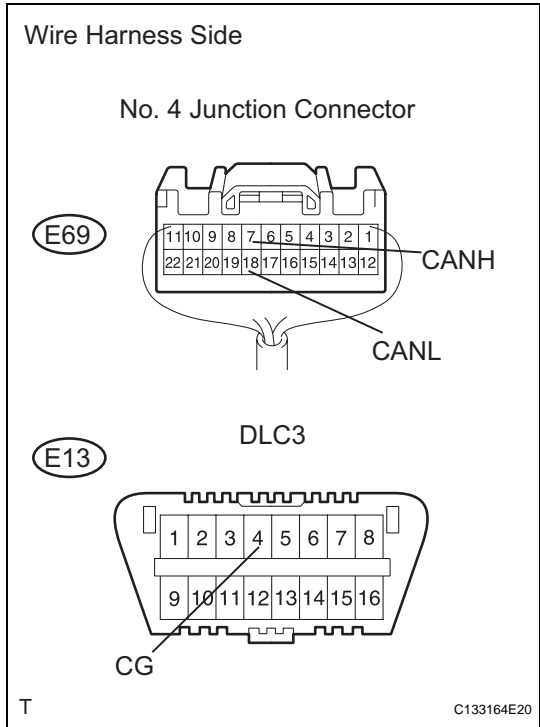
- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E69-7(CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E69-18 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

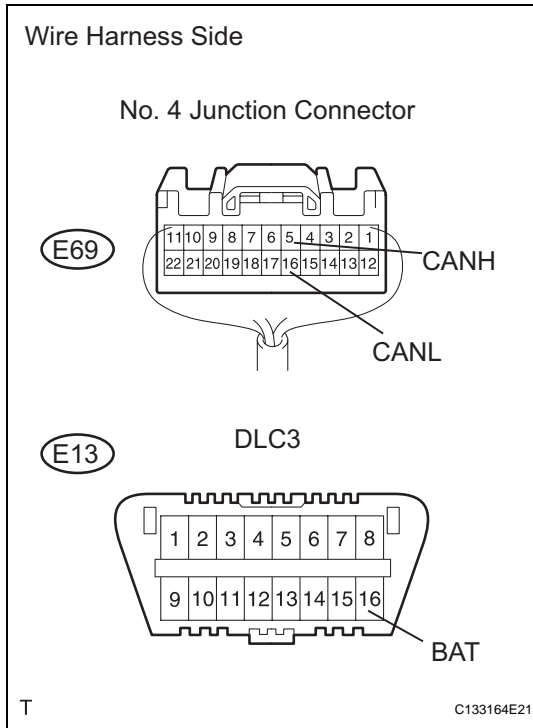
NG

Go to step 36



OK

35 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)



- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E69-5 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E69-16 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 38

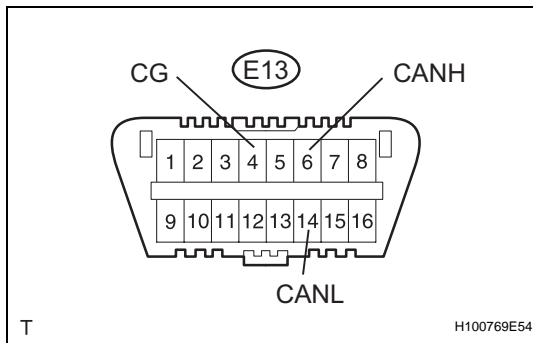
OK

36 CONNECT CONNECTOR

- (a) Reconnect the E69 No. 4 junction connector.

NEXT

37 CHECK CAN BUS LINE FOR SHORT TO GND (4WD CONTROL ECU)



- (a) Disconnect the E57 4WD control ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CANH, CANL)

OK

REPLACE 4WD CONTROL ECU

CA

38

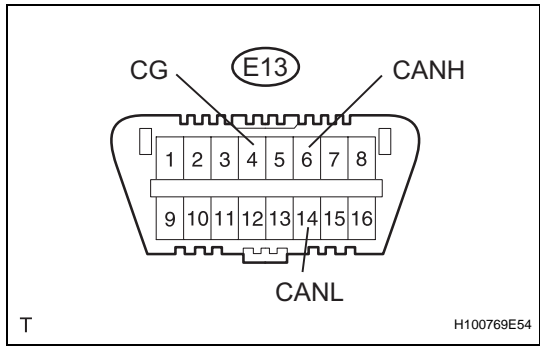
CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

39

CHECK CAN BUS LINE FOR SHORT TO GND (COMBINATION METER ECU)



- (a) Disconnect the E19 combination meter ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN MAIN WIRE
CONNECTED TO COMBINATION METER
ECU (CANH, CANL)

OK

REPLACE COMBINATION METER ECU

Short to GND in CAN Bus Line

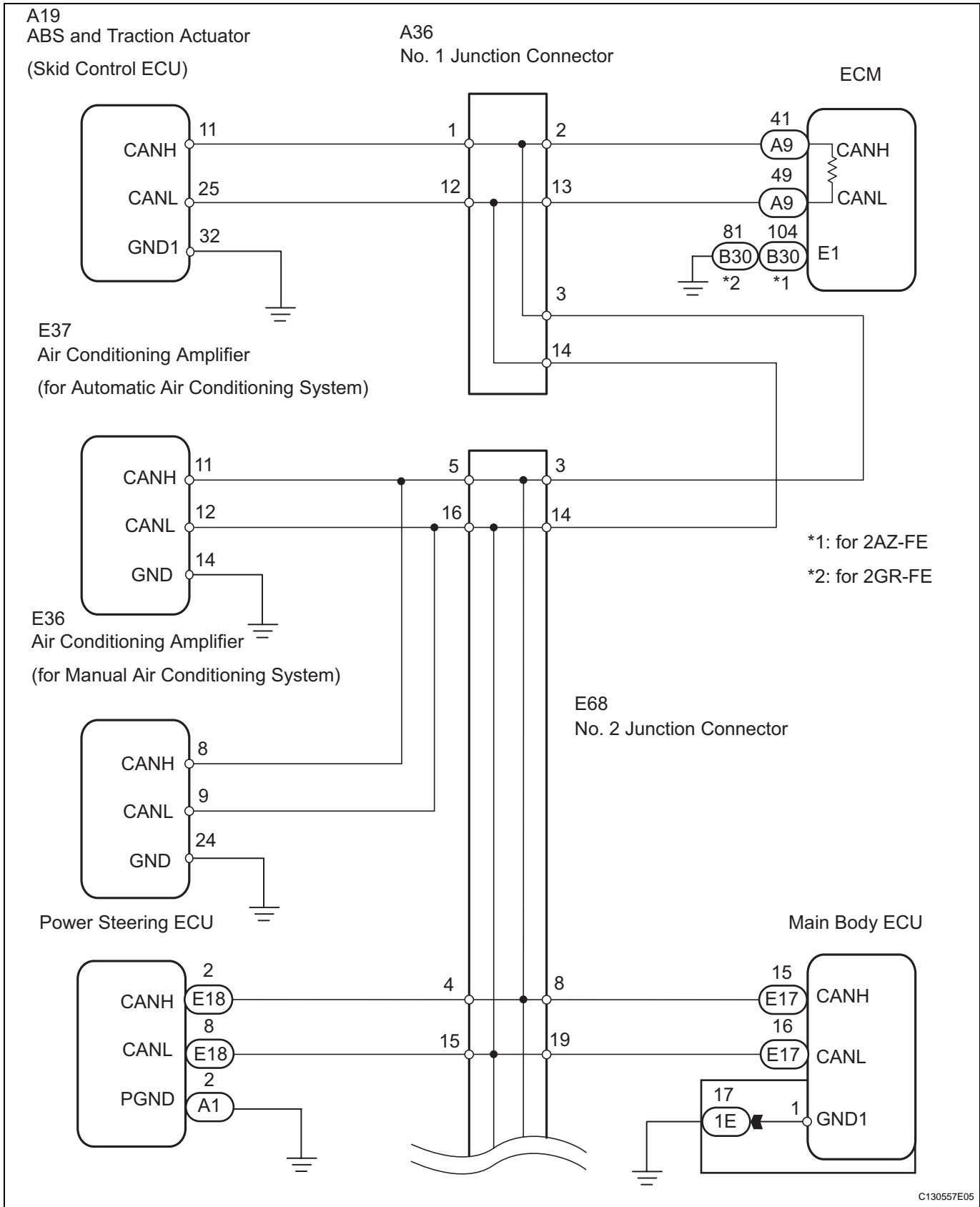
(2006/01-)

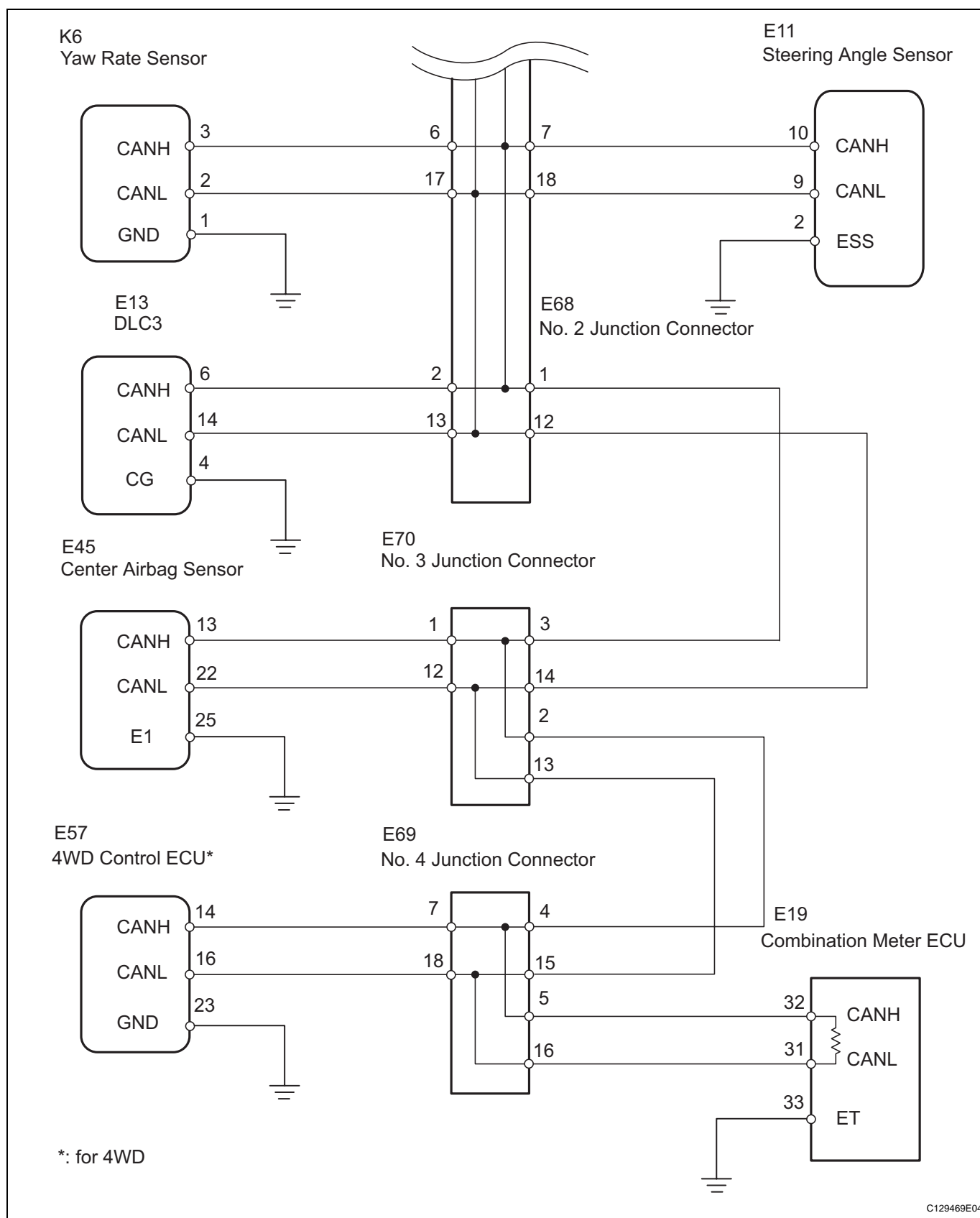
DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

Symptom	Trouble Area
There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of DLC3.	<ul style="list-style-type: none">• Short to GND• ABS and traction actuator (skid control ECU)• Power steering ECU• Steering angle sensor• Yaw rate sensor• ECM• Center airbag sensor• Air conditioning amplifier• Combination meter ECU• Instrument panel junction block (main body ECU)• 4WD control ECU

WIRING DIAGRAM





C129469E04

INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and branch wire.

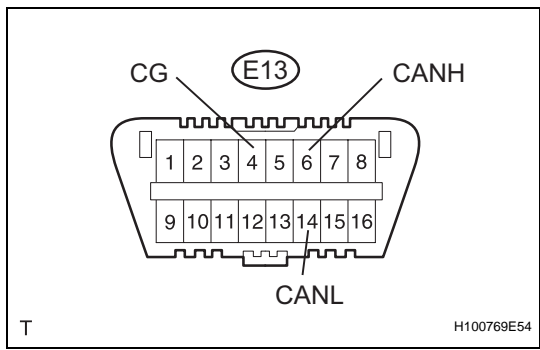
CA

- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:
Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1

CHECK CAN BUS LINE FOR SHORT TO GND (DLC3 BRANCH WIRE)



- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

2

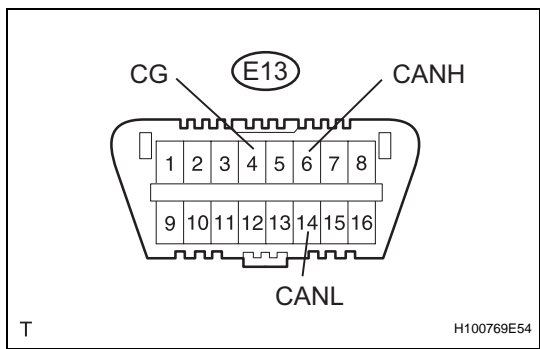
CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

3

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 1 JUNCTION CONNECTOR)



- (a) Disconnect the A36 No. 1 junction connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

Go to step 12

NG

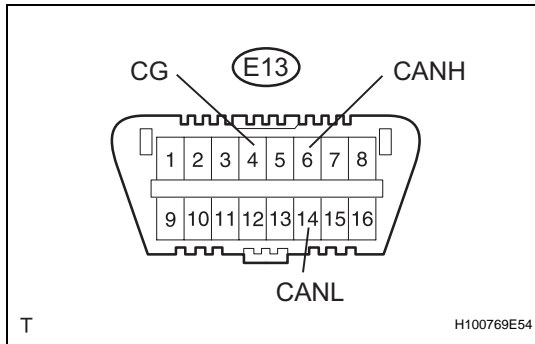
4

CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

5 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 3 JUNCTION CONNECTOR, NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E70 No. 3 junction connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 18

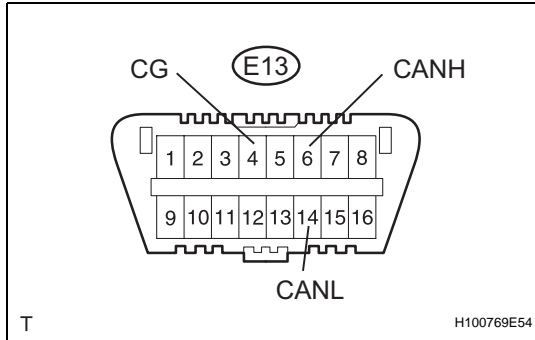
OK

6 CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

7 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR SIDE)



- (a) Disconnect the E69 No. 4 junction connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

Go to step 34

NG

8 CONNECT CONNECTOR

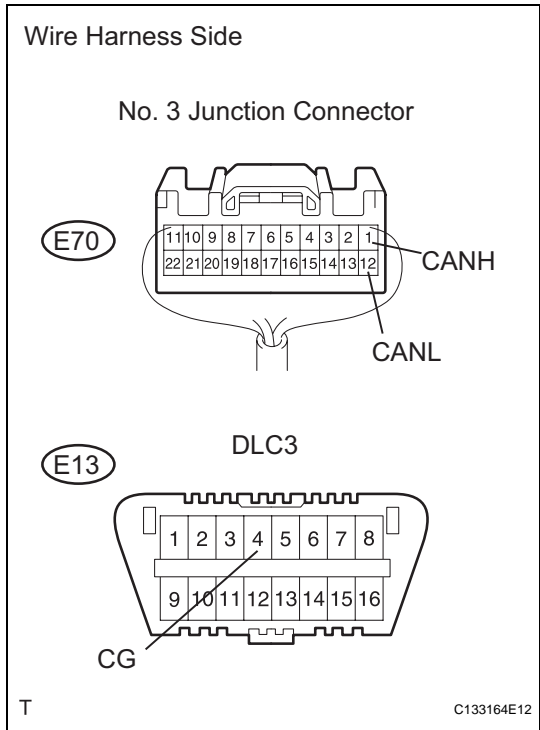
- (a) Reconnect the E69 No. 4 junction connector.

NEXT

CA

9

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 3 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)



- (a) Disconnect the E70 No. 3 junction connector.
- (b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E70-1 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E70-12 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

NG

10

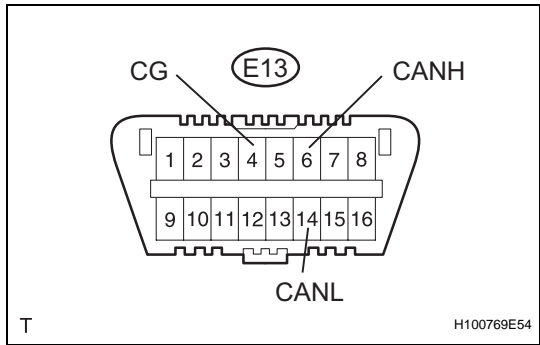
CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

NEXT

11

CHECK CAN BUS LINE FOR SHORT TO GND (CENTER AIRBAG SENSOR ASSEMBLY)



- (a) Disconnect the E45 center airbag sensor connector.
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

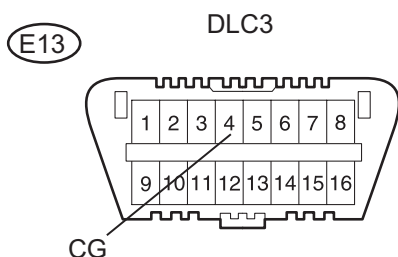
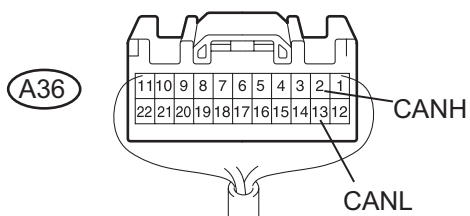
OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY

12 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 1 JUNCTION CONNECTOR - ECM)

Wire Harness Side

No. 1 Junction Connector



T

C133164E13

- (a) Disconnect the A36 No. 1 junction connector.
 (b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-2 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
A36-13 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 14

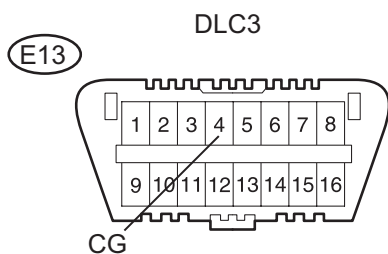
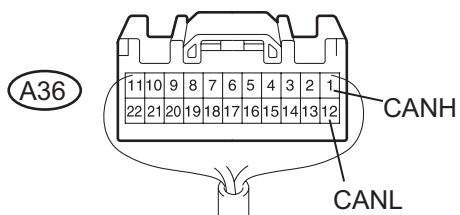
OK

CA

13 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 1 JUNCTION CONNECTOR - ABS AND TRACTION ACTUATOR)

Wire Harness Side

No. 1 Junction Connector



T

C133164E14

- (a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-1 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
A36-12 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 16

OK

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

14

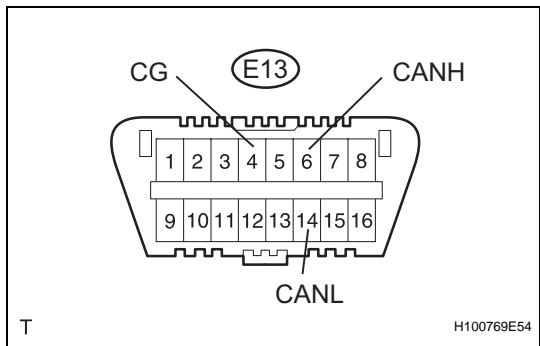
CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

15

CHECK CAN BUS LINE FOR SHORT TO GND (ECM)



- (a) Disconnect the A9 ECM connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (NO. 1 JUNCTION CONNECTOR - ECM)

OK

REPLACE ECM

16

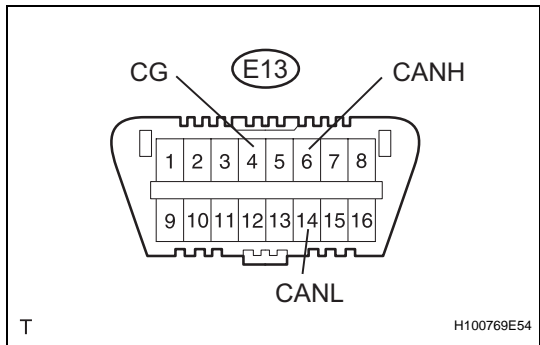
CONNECT CONNECTOR

- (a) Reconnect the A36 No. 1 junction connector.

NEXT

17

CHECK CAN BUS LINE FOR SHORT TO GND (ABS AND TRACTION ACTUATOR)



- (a) Disconnect the A19 ABS and traction actuator (skid control ECU) connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

**REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO ABS AND TRACTION
ACTUATOR (CANH, CANL)**

OK

REPLACE ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

18 CONNECT CONNECTOR

- (a) Reconnect the E70 No. 3 junction connector.

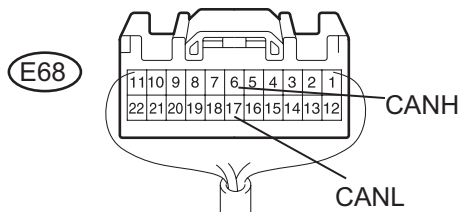
NEXT

19 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - YAW RATE SENSOR)

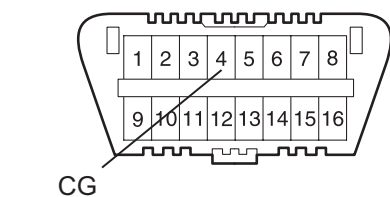
CA

Wire Harness Side

No. 2 Junction Connector



DLC3



T

C133164E15

- (a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-17 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

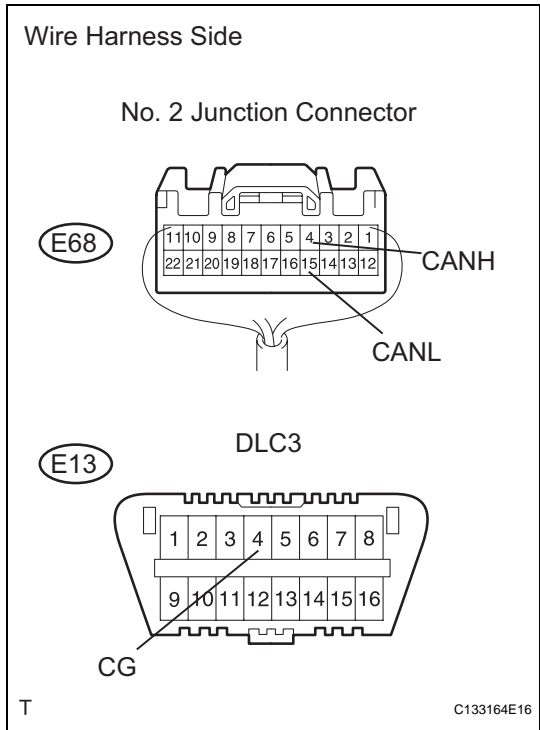
NG

Go to step 24

OK

20

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - POWER STEERING ECU)



OK

(a) Measure the resistance of the wire harness side connectors.

Standard resistance

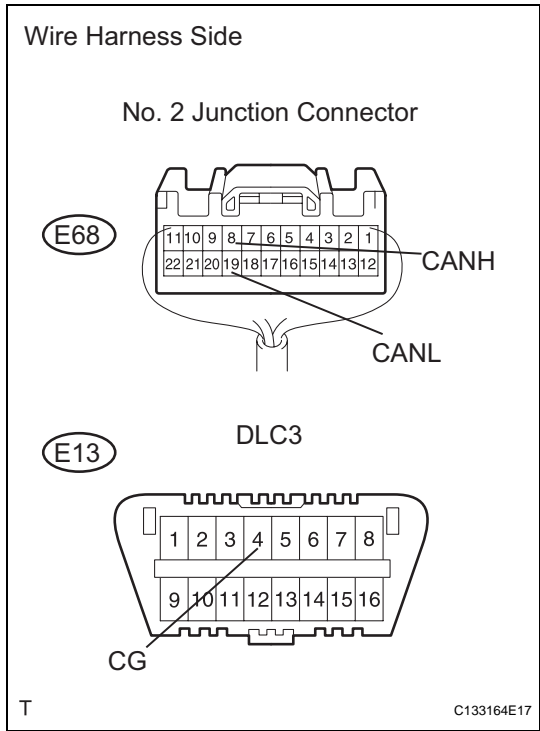
Tester Connection	Condition	Specified Condition
E68-4 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-15 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 26

21

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - MAIN BODY ECU)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-8 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-19 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 28

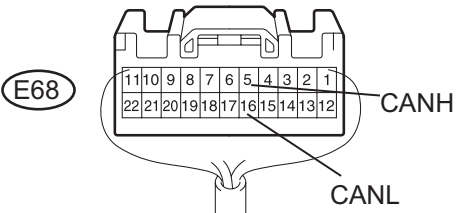
OK

22

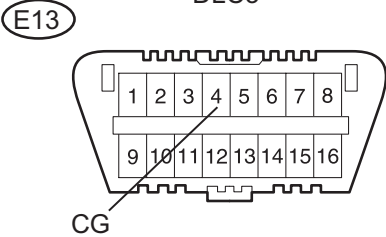
CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - AIR
CONDITIONING AMPLIFIER)

Wire Harness Side

No. 2 Junction Connector



DLC3



T

C133164E18

(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-5 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-16 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

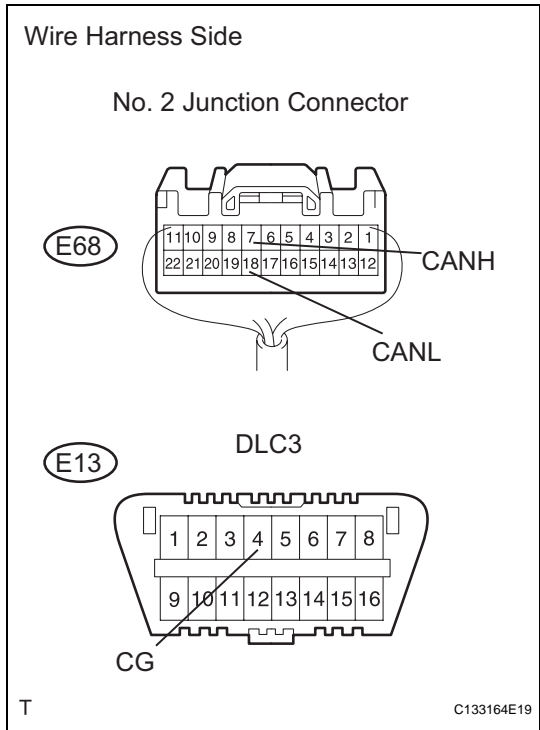
Go to step 30

OK

CA

23

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 2 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E68-7 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E68-18 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 32

OK

REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

24

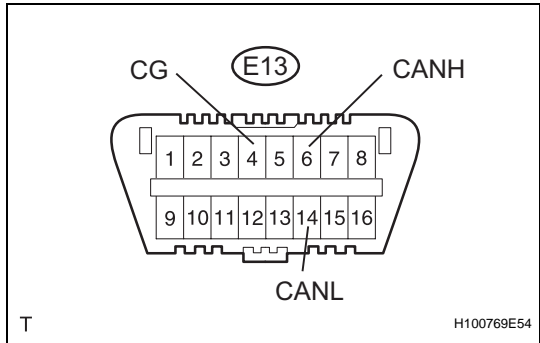
CONNECT CONNECTOR

(a) Reconnect the E68 No. 2 junction connector.

NEXT

25

CHECK CAN BUS LINE FOR SHORT TO GND (YAW RATE SENSOR)



(a) Disconnect the K6 yaw rate sensor connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

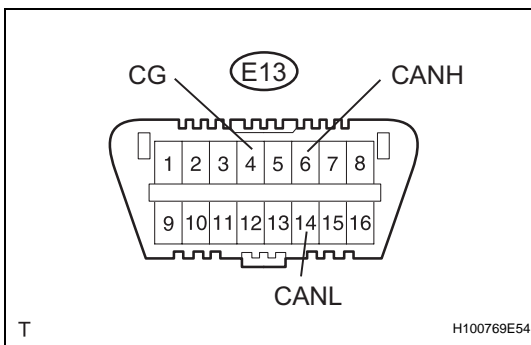
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

REPLACE YAW RATE SENSOR**26 CONNECT CONNECTOR**

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

27 CHECK CAN BUS LINE FOR SHORT TO GND (POWER STEERING ECU)

- (a) Disconnect the E18 power steering ECU connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

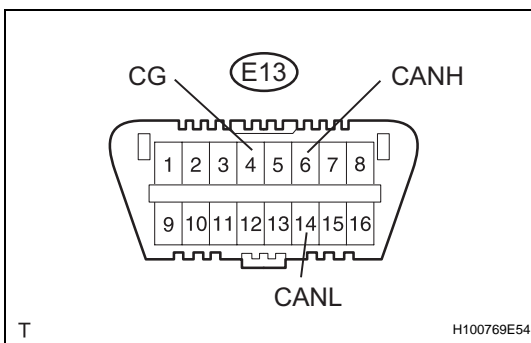
REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER STEERING ECU (CANH, CANL)

OK

REPLACE POWER STEERING ECU**28 CONNECT CONNECTOR**

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

29 CHECK CAN BUS LINE FOR SHORT TO GND (MAIN BODY ECU)

- (a) Disconnect the E17 main body ECU connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO MAIN BODY ECU (CANH,
CANL)

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

30

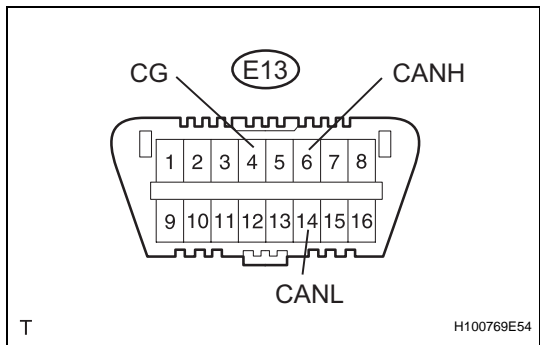
CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

31

CHECK CAN BUS LINE FOR SHORT TO GND (AIR CONDITIONING AMPLIFIER)



- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.
HINT:
*1: for Automatic air conditioning system
*2: for Manual air conditioning system
- (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

REPAIR OR REPLACE CAN BRANCH WIRE
CONNECTED TO AIR CONDITIONING
AMPLIFIER (CANH, CANL)

OK

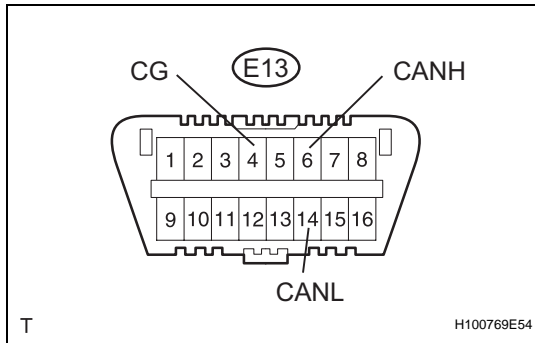
REPLACE AIR CONDITIONING AMPLIFIER

32

CONNECT CONNECTOR

- (a) Reconnect the E68 No. 2 junction connector.

NEXT

33 CHECK CAN BUS LINE FOR SHORT TO GND (STEERING ANGLE SENSOR)

- (a) Disconnect the E11 steering sensor connector.
 (b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

OK

**REPAIR OR REPLACE CAN BRANCH WIRE
 CONNECTED TO STEERING ANGLE
 SENSOR (CANH, CANL)**

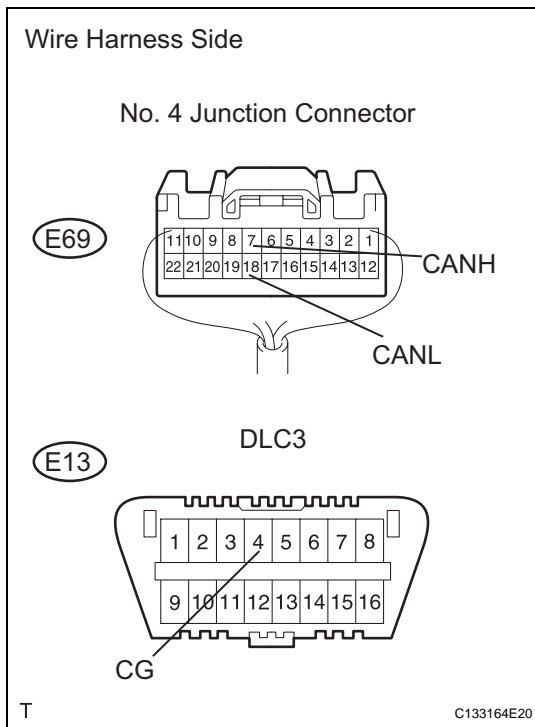
OK**CA****REPLACE STEERING ANGLE SENSOR****34 CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)****NOTICE:**

For vehicles without 4WD, go to "CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)".

- (a) Measure the resistance of the wire harness side connectors.

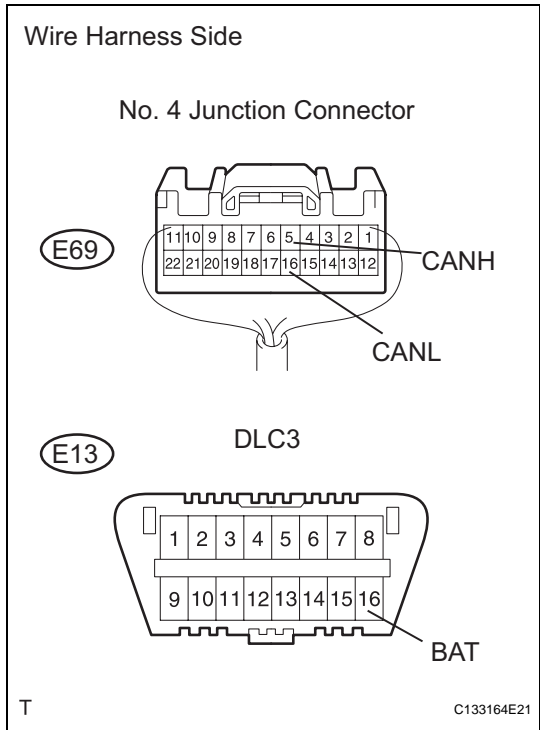
Standard resistance

Tester Connection	Condition	Specified Condition
E69-7(CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E69-18 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG**Go to step 36****OK**

35

CHECK CAN BUS LINE FOR SHORT TO GND (NO. 4 JUNCTION CONNECTOR - COMBINATION METER ECU)



(a) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Condition	Specified Condition
E69-5(CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E69-16 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

Go to step 38

OK

36

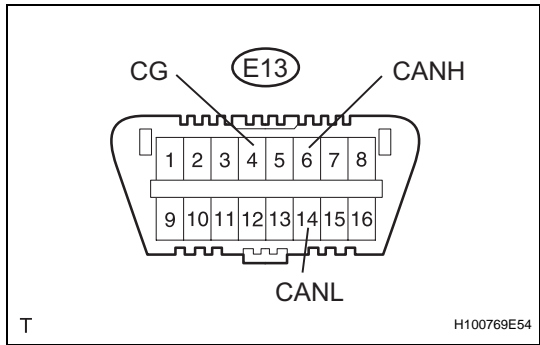
CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

37

CHECK CAN BUS LINE FOR SHORT TO GND (4WD CONTROL ECU)



(a) Disconnect the E57 4WD control ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CANH, CANL)

OK

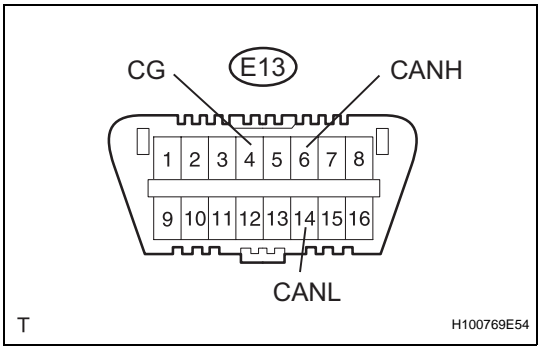
REPLACE 4WD CONTROL ECU

38 CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

39 CHECK CAN BUS LINE FOR SHORT TO GND (COMBINATION METER ECU)



- (a) Disconnect the E19 combination meter ECU connector.
(b) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition
E13-6 (CANH) - E13-4 (CG)	Ignition switch OFF	200 Ω or more
E13-14 (CANL) - E13-4 (CG)	Ignition switch OFF	200 Ω or more

NG

**REPAIR OR REPLACE CAN MAIN WIRE
CONNECTED TO COMBINATION METER
ECU (CANH, CANL)**

CA

OK

REPLACE COMBINATION METER ECU

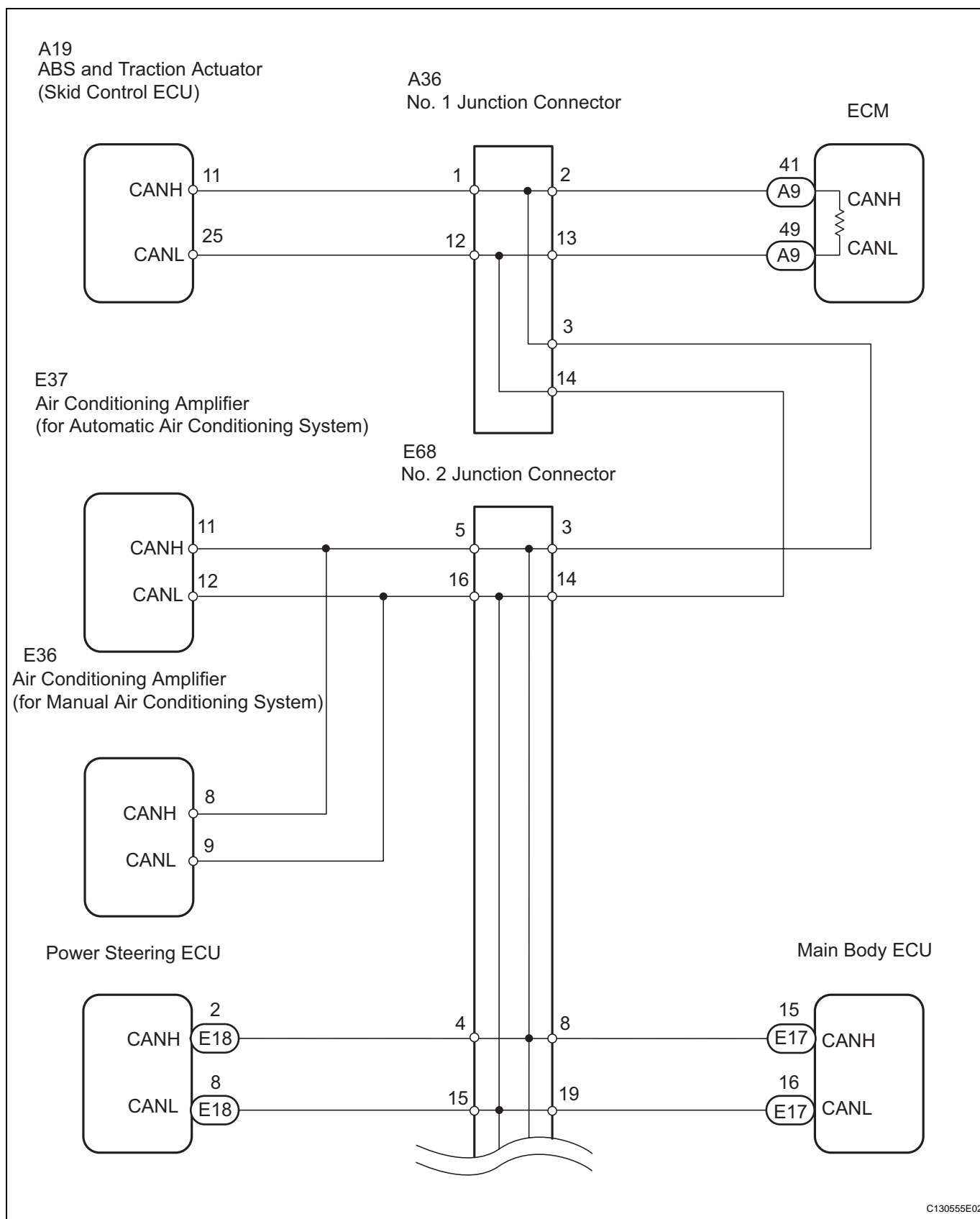
Open in One Side of CAN Branch Line

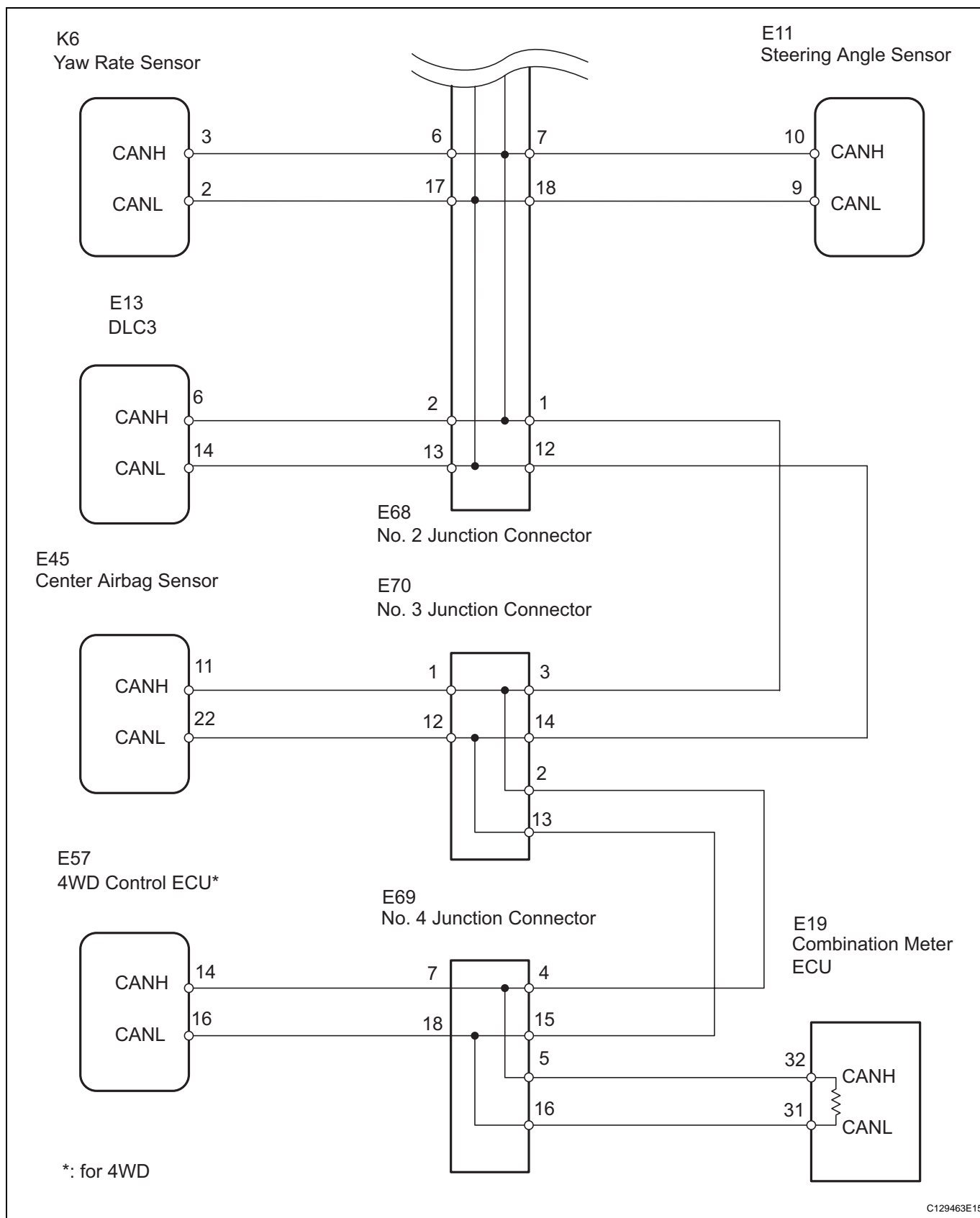
DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester's "BUS CHECK" screen via the CAN VIM, one side of the CAN branch wire may be open. (One side of the CANH [branch wire] /CANL [branch wire] of the ECU and/or sensor is open.)

Symptom	Trouble Area
2 or more ECUs and/or sensors do not appear on intelligent tester "BUS CHECK" screen via CAN VIM.	<ul style="list-style-type: none">• One side of CAN branch wire is open• ABS and traction actuator (skid control ECU)• Power steering ECU• Steering angle sensor• Yaw rate sensor• Center airbag sensor• Air conditioning amplifier• Instrument panel junction block (Main body ECU)• 4WD control ECU• No. 1 junction connector• No. 2 junction connector• No. 3 junction connector• No. 4 junction connector

WIRING DIAGRAM





INSPECTION PROCEDURE

NOTICE:

- Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.

- After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.
- Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.

HINT:

- Perform the following inspection for the ECUs (sensors) which are not displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.
- Do not remove the combination meter and ECM, as they are the end parts of the circuit. If removed, CAN communication will not be possible.
- The open circuit confirmation of the combination meter, ECM and main wire is performed in the CHECK CAN BUS LINE procedure of HOW TO PROCEED WITH TROUBLESHOOTING. This inspection only has procedures for checking for an open circuit on one side of the CAN branch wire.

1**CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (ABS AND TRACTION ACTUATOR)**

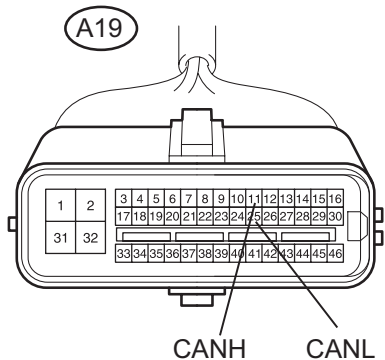
- Disconnect the A19 ABS and traction actuator (skid control ECU) connector.
- Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page [CA-34](#)).

Result

Result	Proceed to
ABS/VSC/TRAC not displayed on intelligent tester.	A
Several ECUs and sensors other than ABS/VSC/TRAC not displayed on intelligent tester.	B

B**Go to step 3****A****2****CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (ABS AND TRACTION ACTUATOR BRANCH WIRE)**

Wire Harness Side



- Measure the resistance of the wire harness side connector.

Standard resistance:**54 to 69 Ω** **NG****REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (ABS AND TRACTION ACTUATOR)**

OK

REPLACE ABS AND TRACTION ACTUATOR (SKID CONTROL ECU)

3CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (YAW RATE SENSOR)

- (a) Disconnect the K6 yaw rate sensor connector.
- (b) Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page CA-34).

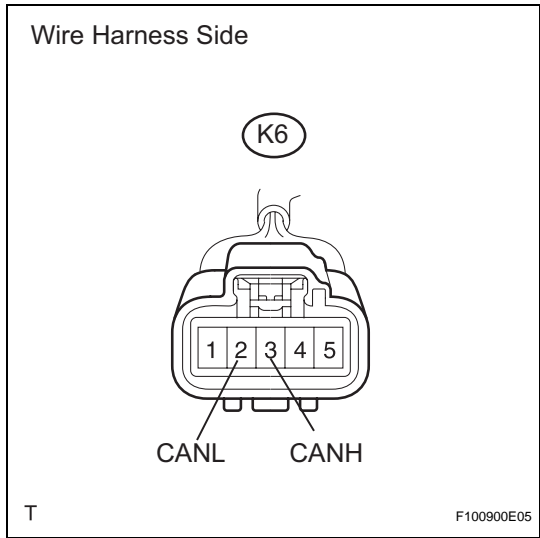
Result

Result	Proceed to
YAW / DECELERAT Sensor not displayed on intelligent tester.	A
Several ECUs and sensors other than YAW / DECELERAT Sensor not displayed on intelligent tester.	B

BGo to step 5

A

4CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (YAW RATE SENSOR BRANCH WIRE)



- (a) Measure the resistance of the wire harness side connector.
- Standard resistance:
54 to 69 Ω

NGREPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (YAW RATE SENSOR)

OK

REPLACE YAW RATE SENSOR

5CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (POWER STEERING ECU)

- (a) Disconnect the E18 power steering ECU connector.

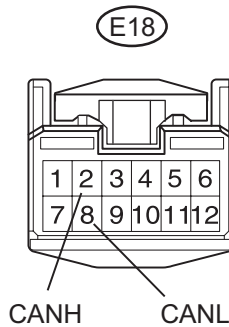
- (b) Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page [CA-34](#)).

Result

Result	Proceed to
EPS not displayed on intelligent tester.	A
Several ECUs and sensors other than EPS not displayed on intelligent tester.	B

B**Go to step 7****A****6****CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (POWER STEERING ECU BRANCH WIRE)**

Wire Harness Side



C128052E02

- (a) Measure the resistance of the wire harness side connector.

Standard resistance:**54 to 69 Ω** **NG****REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (POWER STEERING ECU)****CA****OK****REPLACE POWER STEERING ECU****7****CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)**

- (a) Disconnect the E17 main body ECU connector.
(b) Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page [CA-34](#)).

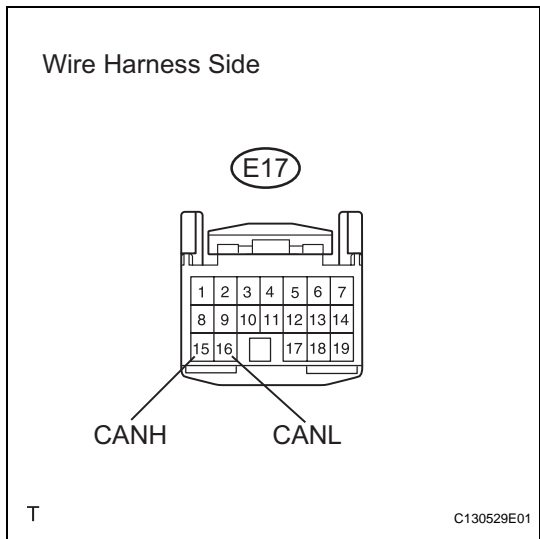
Result

Result	Proceed to
MAIN BODY not displayed on intelligent tester.	A
Several ECUs and sensors other than MAIN BODY not displayed on intelligent tester.	B

B**Go to step 9**

A

8 CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU BRANCH WIRE)



- (a) Measure the resistance of the wire harness side connector.

Standard resistance:
54 to 69 Ω

NG REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (MAIN BODY ECU)

OK

REPLACE INSTRUMENT PANEL JUNCTION BLOCK (MAIN BODY ECU)

9 CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER)

- (a) Disconnect the E37*1 or E36*2 air conditioning amplifier connector.

HINT:

- *1: for Automatic air conditioning system.
- *2: for Manual air conditioning system.

- (b) Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page CA-34).

Result

Result	Proceed to
A/C not displayed on intelligent tester.	A
Several ECUs and sensors other than A/C not displayed on intelligent tester.	B

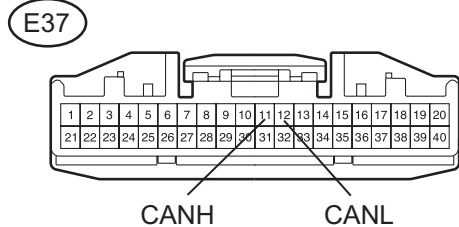
B Go to step 11

A

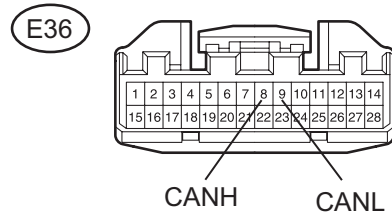
10 CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

Wire Harness Side

for Automatic Air Conditioning System



for Manual Air Conditioning System



T

C128050E19

- (a) Measure the resistance of the wire harness side connector.

Standard resistance:

54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (AIR CONDITIONING AMPLIFIER)

OK

CA

REPLACE AIR CONDITIONING AMPLIFIER

11 CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (STEERING ANGLE SENSOR)

- (a) Disconnect the E11 steering angle sensor connector.
 (b) Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page [CA-34](#)).

Result

Result	Proceed to
STEERING SENSOR not displayed on intelligent tester.	A
Several ECUs and sensors other than STEERING SENSOR not displayed on intelligent tester.	B

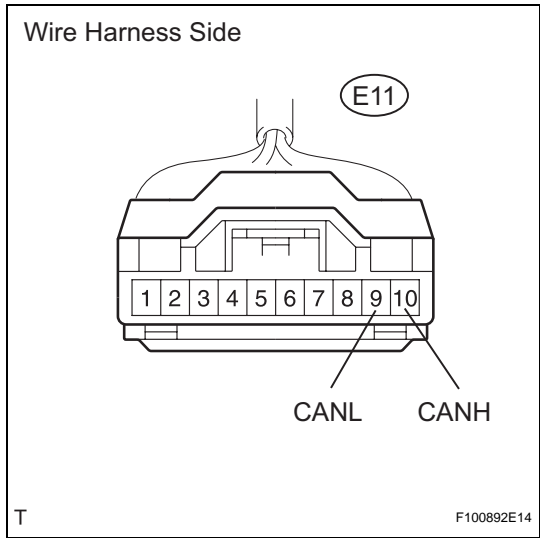
B

Go to step 13

A

12

CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (STEERING ANGLE SENSOR BRANCH WIRE)



(a) Measure the resistance of the wire harness side connector.

Standard resistance:
54 to 69 Ω

NG REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (STEERING ANGLE SENSOR)

OK

REPLACE STEERING ANGLE SENSOR

13

CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (4WD CONTROL ECU)

NOTICE:
For vehicles without 4WD, go to "CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR ASSEMBLY BRANCH WIRE)".

(a) Disconnect the E57 4WD control ECU connector.
(b) Select "BUS CHECK" on the intelligent tester display via the CAN VIM (see page [CA-34](#)).

Result

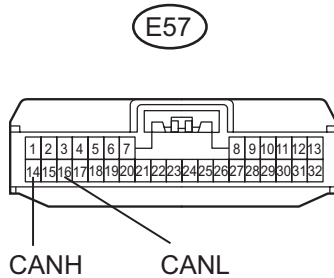
Result	Proceed to
4WD not displayed on intelligent tester.	A
Several ECUs and sensors other than 4WD not displayed on intelligent tester.	B

A

B Go to step 15

14 CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (4WD CONTROL ECU BRANCH WIRE)

Wire Harness Side



- (a) Measure the resistance of the wire harness side connector.

Standard resistance:

54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (4WD CONTROL ECU)

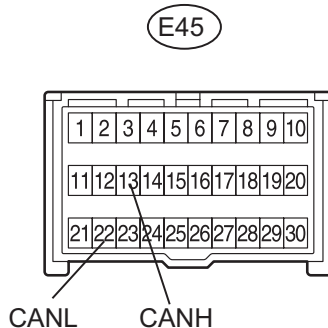
OK

CA

REPLACE 4WD CONTROL ECU

15 CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR ASSEMBLY BRANCH WIRE)

Wire Harness Side



- (a) Disconnect the E45 center airbag sensor connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance:

54 to 69 Ω

NG

REPAIR OR REPLACE CAN BRANCH WIRE AND CONNECTOR (CENTER AIRBAG SENSOR ASSEMBLY)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY